

MINUTES OF 27th MEETING OF THE EXPERT APPRAISAL COMMITTEE FOR ENVIRONMENT APPRAISAL OF COAL MINING PROJECTS HELD ON 4th MARCH, 2022 THROUGH VIDEO CONFERENCE.

Confirmation of the Minutes of 26th Meeting of the EAC (Coal) held on 18th February, 2022: The minutes of the 26th meeting of the EAC held during 18th February, 2022 as confirmed by the Chairman.

Opening Remarks of the Chairman: At the outset, the Chairman welcomed the Expert members & other participants and requested to start the proceeding as per the agenda adopted for this meeting.

Consideration of Proposals: The 27th meeting of the Expert Appraisal Committee (EAC) for coal mining projects was held on 3rd -4th March, 2022 through video conferencing with support NIC team due to Covid-19 lockdown. The EAC considered proposals as per agenda adopted for the meeting. List of participant attended the meeting is annexed. The details of deliberations held & decisions taken in the meeting are as under.

Agenda No. 27.1

Expansion of Vakilpalli Mine (VKP) Underground Coal Mining Project (0.35 MTPA) in ML area 205.34 Ha of M/s Singareni Collieries Company Ltd., located Village Vakilpalli, Mandal Kamanpur, District Peddapalli (Telangana) -For Environmental Clearance (Under violation Notification dated 14th March, 2017) –Reg

[Online proposal IA/TG/CMIN/258008/2018, File No 23-253/2018-IA.III(V)]

27.1.1 The proposal is for grant of Environment Clearance to Expansion of Vakilpalli Mine (VKP) Underground Coal Mining Project (0.35 MTPA) in ML area 205.34 Ha of M/s Singareni Collieries Company Ltd., located Village Vakilpalli, Mandal Kamanpur, District Peddapalli (Telangana).

27.1.2 The details of the proposal, as ascertained from documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Topo Sheet No. 56N/10 and is bounded by the geographical coordinates ranging from Latitudes 18° 40' 14" to 18° 41' 32" N and longitudes 79° 33' 21" to 79° 34' 11" E.
- (ii) Coal linkage of the mine is proposed as per the Fuel Supply Agreement of the Company.
- (iii) Joint venture cartel has been formed: Not Applicable.

- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) The Project does not fall in the Critically Polluted Area (CPA).
- (vi) Benefit of projects : (i) **Social:** Infrastructure facilities like drinking water supply, sanitation, roads, culverts, community halls, street lighting, Education, Medical, Recreation, Business establishments etc., will be improved in the surrounding villages through CSR activities. Excess mine discharge water will be utilized for irrigation and ground water recharge (ii) **Financial:** Indirect employment opportunities to local people will be created through contract works such as coal transport, ancillary material supply like spare parts, explosives, services etc. Income will be generated to State and Central Govt., in the form of taxes (iii) **Environmental:** Parks will be developed in the area, Avenue plantation will be taken up along the roads, township, etc., Extensive plantations will be taken up in the area, Environmental awareness will be created in the area, Fruit bearing and other saplings will be distributed at free of cost to the schools and surrounding villagers, De-silting of surrounding irrigation tanks, Construction of rain water harvesting pits in surrounding villages.
- (vii) Earlier, the Environment Clearance to the project was obtained, Ministry's letter No:J-11015/29/68-IA.II, dated: 14.08.1989 for 0.45 MTPA.
- (viii) Terms of Reference was granted on 22.01.2020 and Amendment to ToR was issued on 17.03.2021 vide MoEF&CC letter No. F.No. 23-253/2018-IA.III (V).
- (ix) Total mining lease area as per block allotment is 205.34 ha.
- (x) Mining Plan & Mine closure plan for Vakilpalli underground coal mining project was covered in Mining Plan & Mine closure plan approved for Ramagundam Coal Mine (RG Coal Mine) [Conversion of UG Mines to OC (closed GDK 10 & working Vakilpalli sequentially) and Amalgamation of RG OC I Expansion Project, RG OC II Extension Project & Adriyala Longwall Project] vide Lr.no.55026/1/2020-CPAM, dt.18.10.2020 by MoC, GoI.
- (xi) The land usage pattern of the project is as follows

Pre-mining land use details

Sl. No	Land Use of Lease Area	Extent in ha
1	Agricultural	104.84
2	Barren	21.64
3	Built up area	14.88
4	Grazing /other	15.20
5	Protected forest	48.78
	Total	205.34

During Mining

Sl. No.	Land Use	Area in ha
A	<i>Roads & Infrastructure</i>	
1	Mine pit head structure/ establishment area	6.33

2	Sand stowing plant/ sand stock area	1.67
3	Roads	0.82
4	UG entry	0.05
5	Sub Station	0.29
6	Filter Bed	0.11
	Sub - total	9.27
B	<i>Undisturbed land</i>	196.07
Total mine take area		205.34

Post-Mining: Area in Ha

S. No.	Description	Post Closure Land Use (Ha.)			
		Un-Disturbed land/Plantation	Water body	SCCL Use	Total
1	Built up area (Roads & Infrastructure)	-	-	9.27	9.27
2	Un-disturbed / Reclaimed Forest Land	48.78	-	-	48.78
3	Un-disturbed / Reclaimed Non-Forest Land	143.01	-	-	143.01
4	Water body (Drains, etc.)	-	4.28	-	4.28
	Total	191.79	4.28	9.27	205.34

- (xii) Total geological reserve reported in the project area is 35.22 MT with 19.86 MT mineable coal reserve. Out of 19.86 MT of total mineable reserve, 17.87 MT are available for extraction. Percent of extraction is 50.74 %.
- (xiii) 2 nos. of coal seams with thickness ranging from 2.0 m to 9.5 m are workable (No. 3 seam-7.0 m to 9.5 m and 4 seam 2.0 m to 4.2 m). Grade of coal is G-7, while gradient is 1 in 6.
- (xiv) Method of mining operations envisages by Underground method by Board and Pillar with Continuous Miner/Load Haul Dumpers technology
- (xv) Balance life of the project is 6 years from 01.04.2021.
- (xvi) Transportation of coal from face to the surface will be done by Haulage/belt Conveyor system in the underground working and from surface to GDK1 CHP for a distance of 10.35 km by trucks covered with tarpaulin and at sidings by rail mode.
- (xvii) Reclamation Plan in an area 196.07 ha including green belt in mine take area at post closure stage.
- (xviii) 48.78 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 28.74 ha of forest land for non-forestry purposes have been obtained vide letter no. FC Lr. No. F.No.8-109/2005-FC, dt.02.02.2008 for 412.40 ha in which 28.74 ha is a part.

- (xix) Balance 21.66 ha is part of 330.18 ha of FL for which SCCL submitted an online application (Proposal No. FP/TG/MIN/47899/2020, date 06.08.2020) for regularization under Section (2) of Forest (C) Act, 1980 as the land (previously acquired as revenue land) was later notified as FL by the State Forest Department. However, there is no change in the project area.
- (xx) Sivaram (Crocodile) wild life sanctuary boundary falls at a distance of 9.30 km from project boundary. However, draft notification for the Sivaram wildlife sanctuary was published in the Gazette of India vide S.O. 2145(E) dated 24.05.2018 and as per that, project boundaries does not fall within the Eco sensitive zone.
- (xxi) The Standing Committee of NBWL recommended the proposal on 07.02.2022 for taking up wild life mitigation measures by depositing an amount of Rs.821.76 Lakhs.
- (xxii) The ground water level has been reported to be varying between 1.97 m to 10.80 m during pre-monsoon period and between 0.95 m to 8.10 m during post-monsoon period. Total water requirement for the project is 420 KLD.
- (xxiii) Ground Water Clearance was obtained vide Memo No. 13050/Hg II(I).06, dt. 30.08.2007 for existing EC capacity of 0.45 MTPA. An application was submitted on 11.03.2020 vide Lr.No. VKP/ENV/2020/115 for grant of ground water clearance for the reduced capacity of 0.35 MTPA.
- (xxiv) Public hearing for the Project of 0.35 MTPA capacity in an area of 205.34 ha was conducted on 24.09.2021 at Community Hall, 8 Incline colony, Venkatrapally (village), Ramagiri (Mandal), Peddapalli (Dist.), Telangana State under the Chairmanship of Additional Collector, Peddapalli District, Telangana. Major issues raised in the public hearing include Development of basic amenities in affected villages with funds of CSR and spend CSR & DMFT funds in affected villages only. Conduct of skill development training programmes for local people under CSR. Employment to locals in contract works. To take air, water and noise pollution control measures. To continue medical camps under CSR and to take up massive plantation in mining areas with native species. Appropriate action to address the issues raised in the public hearing have already been taken /proposed to be taken by PP.
- (xxv) Consent to Operate for the existing capacity was obtained from the State PCB on 18.05.2017 (CFO Order No. 17082671420) and is valid till 31.03.2022.
- (xxvi) No River/nallah is flowing in the project area and no diversion is proposed.
- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnight basis by EPTRI, Hyderabad which is a QCI/NABET accredited and having NABL& CPCB recognized laboratory. The documented report is being submitted to the Regional Officer, Telangana State Pollution Control Board and also to the Regional Officer, MoEF&CC, Chennai along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- (xxviii) No court cases, violation cases are pending against the project of the PP. No court cases are pending against the project of the PP except EC violation case for producing excess coal from the project beyond the EC sanctioned capacity for a few years in the project area stipulated in EC.
- (xxix) As per the ToR, State Govt./SPCB has to take action against the Project Proponent under the Provisions of the E(P) Act, 1986 for violating existing EC. A case was filed (credible action) in

the court of J.M.F.C., Manthani (C.C.No.1018/2020) against Project Authority by EE, TSPCB, Regional Officer, Ramagundam under section 18 of Environment Protection Act, 1986 for violating existing EC. The case is under trial.

(xxx) No R&R is involved in the project.

(xxxi) Total cost of the Project is Rs.98.71 Crores. Cost of production is Rs. 2546.00 per tonne. CSR cost is 2% of average net profits of the company made during last three years are being allocated for CSR at company level. No R&R involved in the project, so R&R cost is nil. Environment Manage Cost is as follows:

a) Capital cost : Rs.81.46 Lakh

b) Revenue cost : Rs.20.67 Lakh per annum @ Rs.5.91 per tonne of coal

(xxxii) The project involves violation of the EIA Notification, 2006 and amendment issued there under. Excess production of coal beyond the sanctioned capacity has been realized for a few years. Past Production details comparison with existing EC

Year	EC Sanctioned Capacity (MTPA)	Actual Coal Production (MTPA)	Excess Production beyond the EC Capacity (MTPA)
1993-94	0.45	0.555	0.105
1994-95	0.45	0.528	0.078
1995-96	0.45	0.418	0
1996-97	0.45	0.757	0.307
1997-98	0.45	0.564	0.114
1998-99	0.45	0.348	0.000
1999-2000	0.45	0.297	0.000
2000-01	0.45	0.208	0.000
2001-02	0.45	0.195	0.000
2002-03	0.45	0.165	0.000
2003-04	0.45	0.393	0.000
2004-05	0.45	0.349	0.000
2005-06	0.45	0.456	0.006
2006-07	0.45	0.290	0.000
2007-08	0.45	0.410	0.000
2008-09	0.45	0.545	0.095
2009-10	0.45	0.588	0.138
2010-11	0.45	0.316	0.000
2011-12	0.45	0.432	0.000
2012-13	0.45	0.505	0.055

2013-14	0.45	0.430	0.000
2014-15	0.45	0.351	0.000
2015-16	0.45	0.351	0.000
2016-17	0.45	0.312	0.000
2017-18	0.45	0.211	0.000
2018-19	0.45	0.194	0.000
2019-20	0.45	0.148	0.000
2020-21	0.45	0.122	0.000
2021-22 (Up to 26.02.2022)	0.45	0.184	0.000
Total Excess Production			0.901

27.1.3 The EAC from discussions held during the meeting noted the followings:

- (i) Vakilpalli underground coal mine is currently operating and has been in operation since 1975 in a project area of 205.34 ha with a capacity of 0.45 MTPA.
- (ii) Environmental Clearance was obtained on 14.08.1989 in the name of GDK 9 Incline for a coal production capacity of 0.45 MTPA. GDK 9 Incline Extension Project is located near Vakilpalli village and hence it is also called as Vakilpalli Mine. The mining plan is also approved in the name of Vakilpalli Coal mine and accordingly ToR was issued for the mine
- (iii) Excess coal of 0.901 MT has been produced for 8 years in different years after 1993-94, linking it to NTPC, Ramagundam. Therefore, proposal is counted as violation and its TOR was applied in violation window. PP had proposed to reduce the rated capacity from 0.45 MTPA to 0.35 MTPA in the existing project area of 205.34 ha.
- (iv) M/s SCCL has planned to extract balance coal reserves of 2.24 MT (as on 01.04.2021) in 3 and 4 seams beyond the depth line of 300 m by underground method of mining at annual rated capacity of 0.35 MTPA. Balance life is 06 years from 01.04.2021
- (v) Mining Plan of Vakilpalli Mine was approved by MoC vide Lr.No.55026/1/2020-CPAM, dt.18.08.2020 (covered in Ramagundam Coal Mine).
- (vi) The project is falling at a distance of 9.3 km from Siwaram Wildlife Sanctuary. The Standing Committee of NBWL recommended the proposal on 07.02.2022 for taking up wildlife mitigation measures by depositing an amount of Rs.821.76 Lakhs.
- (vii) Certified Compliance report-Vakilpalli Mine (GDK 9 cline Extension Project) (0.45 MTPA) of M/s. Singareni Collieries Company Limited was obtained vide letter no E-File No: ENV/IRO-

- (viii) Forest Clearance: Total Forest Land involved in the project is 48.78 ha of which forest clearance (Stage-II) have been obtained from MoEF&CC for diversion of forest land of 27.12 ha of forest land vide F. No. 8-109/2005-FC, dated.02.05.2008 (27.12 ha of forest land is part of 412.40 ha of forest land for which Stage-II FC was obtained). The balance 21.66 ha of forest land was initially acquired as non-forest land (Govt. land) during 1972- 1987, as declared UV revenue forest. However, State Forest Department recently identified this land as Forest land hence the regularization of 21.66 ha. of FL is under process for which authentication of been already accorded by PCCF, Government of Telangana, vide letter no No 17918/2019FCA-1/PS, dated. 07-01-2020
- (ix) A Wildlife Conservation Plan prepared for Ramagundam Region mines including Vakilpalli Underground Mine with fund provision of Rs.335.68 Lakh, which was approved by PCCF vide letter no. Rc.No.3505/2020/WL-1, dated 08.04.2021 will be implemented for the conservation of Schedule – I species v.i.z., Crocodylus palustris (Marsh crocodile), Pavocristatus (Indian peafowl) & Varanus bengalensis (Indian Monitor Lizard) and Sivaram wildlife sanctuary. Further, NoC will be obtained from NBWL as the project is falling within 9.3 km away from boundary of Sivaram Wildlife Sanctuary. An application was submitted for issue of NoC from NBWL which is under process
- (x) The Standing Committee of NBWL recommended the proposal on 07.02.2022 for taking up wildlife mitigation measures by depositing an amount of Rs.821.76 Lakhs.
- (xi) Total damage assessment cost is 78.51 Lakhs. The summary of amounts which will be spent for Remediation Plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan is given below:

Sl. No.	Description	Estimated cost (Rs. in Lakhs)
1	Remediation Plan	15.00
2	Natural Resources Augmentation Plan	30.00
3	Community Resources Augmentation Plan	34.00
	Sub-Total	79.00
4	Fund provision as per OM dated 30/09/2020 based on Public hearing requirements (Min. 1% of existing capital cost)	48.00
	Total	127.00

1% contribution from capital cost towards public hearing commitment i.e Rs 48 Lakhs

It was noted that several activities, as raised during public hearing, have been merged either in CSR/DMFT fund or covered under remediation plan and natural resource augmentation plan. These are

water augmentation eg rain water harvesting, de-siltation of Allur tank, etc. So the Committee was of view to provide budgetary provision to deal with public hearing issues and it was advised to invest 50 lakhs other than CSR, and remediation plan/natural resource plan to be executed within two years

27.1.4 *The EAC, after deliberation observed that the Project Proponent have provided the damage assessment cost and accordingly proposed the cost of remediation plan, Natural Resource Augmentation Plan and Community Resource Augmentation Plan. PP has also submitted revised expenditure for addressing the issues raised in Public Hearing. EAC emphasized that since mine is old and plantation along the transportation route should be augmented immediately and the fleet size needs be optimized to reduce the number of dumpers/trucks plying the road. Besides progressive mine closure activities along with three tier planation should be done. The priority should be given to progressive mine closure plan with proper mitigation measures as the life of mine is just 6 years and only one-star rating has been obtained by PP. The Committee desired that Natural Resource Augmentation and Community Resource Augmentation Plan should be completed in 2 years as proposed by PP and PP must make attempt to obtain 5 star rating in FY 2022-2023. Further separate funds of 50 lakh shall be earmarked to address the issues arose during public hearing, which should be implemented within 2 years.*

*Based on documents and commitments submitted by PP, EAC **recommended** the proposal under violation category to EC for Vakilpalli Mine- Underground coal mining project of 0.35 MTPA of M/s. Singareni Collieries Company Limited (SCCL) in mine lease area of 205.34 ha, located near village Vakilpalli, Tehsil Ramagiri (erstwhile Kamanpur), District Peddapalli, Telangana State under EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) *EAC recommended an amount of Rs.127 lakhs towards Remediation plan and Natural and Community Resource Augmentation plan, which should be spent within a span of 2 years. The details of Remediation plan, Natural resource Augmentation plan and Community Resource Augmentation plan with budgetary provision are mention above*

A. Remediation plan along with the action plan with a budget of Rs.15.00 Lakhs:

Sl. No	Component Remediation	Remediation Proposed	Description	Locations	Unit Rate in Rs.	Total Qty.	Total Cost in Lakhs	Phasing years Cost in Lakhs	
								Year - I	Year - II
1a	Water Environment	De-silting of tanks	Allur tank	1. Near Allur village	-	-	9.00	-	9.00

<i>1b</i>		<i>Rain Water Harvesting Pits</i>	<i>Installation of RWH structures in nearby villages</i>	1. Chandanapur 2. Penchikalpet 3. Mareduvaka 4. Singireddy palli 5. Allur	30,000	20 Nos	6.00	-	6.00
<i>1v</i>	<i>Air Environment</i>	<i>Plantation</i>	<i>Taking up of plantation in nearby villages</i>	1. Chandanapur 2. Penchikalpet 3. Mareduvaka 4. Singireddy palli 6. Allur	1000/unit	1000	10.0	10.0	-
<i>Sub-Total – A (1a+1b+1c)</i>							25.0	0	25.0

B. Natural Resource Augmentation Plan along with action plan with a budget of Rs. 30.00 Lakhs

<i>Sl. No</i>	<i>Component Remediation</i>	<i>Proposed Activity</i>	<i>Description</i>	<i>Locations</i>	<i>Unit Rate in Rs.</i>	<i>Total Qty.</i>	<i>Total Cost in Lakhs</i>	<i>Phasing years Cost in Lakhs</i>	
								<i>Year - I</i>	<i>Year - II</i>

2a	Water Environment	Natural Resource Augmentation Plan	Providing 20 W Solar Street Lighting (including panels, inverters, wiring, structure, connectors, junction boxes, etc.) in nearby villages @ Rs.50, 000 per unit.	1. Chandanapur 2. Penchikalpet 3. Mareduvaka 4. Singireddy palli 5. Allur	- 50,000 / one unit	- 60	30.00	15.00	15.0
Sub-Total – A (1a+1b)							30.0	15.0	15.0

C. Community Resource Augmentation Plan along with action plan with a budget of Rs. 34.00 Lakhs:

Sl. No.	Proposed Activity	Description	Locations	Unit Rate Rs.	Total Qty	Total Cost	Year - I	Year - II
						Phasing years Cost Rs. In Lakhs		
3a	Development of infrastructure	Supply & Installation of Hand pumps in nearby villages	1. Chandanapur 2. Penchikalpet 3. Mareduvaka 4. Singireddy palli 5. Allur	60,000 / one unit	20	12.0	6.0	6.0
3b		Supply air & surface transmission prevention for CoVID equipment including masks	1. Chandanapur 2. Penchikalpet 3. Mareduvaka 4. Singireddy palli 5. Allur	LS	25	12.0	6.0	6.0

		and sanitisers to nearby villages						
Sub-Total – C (3a+3b+3c)						Rs.	24.00	12.00
Grand Total (A +B +C)						Rs.	79.00	42.00

Sl. No.	Description	Estimated cost (Rs. in Lakhs)
1	Remediation Plan	25.00
2	Natural Resources Augmentation Plan	30.00
3	Community Resources Augmentation Plan	24.00
	Sub-Total	79.00
4	Fund provision as per OM dated 30/09/2020 based on Public hearing requirements (Min. 1% of existing capital cost)	48.00
Total		127.00

- (ii) Total budgetary provision with respect to Remediation plan and Natural & Community Resource Augmentation plan is Rs. 127 lakhs. Therefore, project proponent shall be required to submit a bank guarantee of an amount of Rs. 127/- Lakhs towards Remediation plan and Natural and Community Resource Augmentation plan with the SPCB prior to the grant of EC.
- (iii) Remediation plan shall be completed in within two years from date of issue of EC only. The bank guarantee will be released after successful implementation of the remediation plan and Natural and Community Resource Augmentation Plan, and after the recommendation by regional office of the Ministry, Expert Appraisal Committee and approval of the Regulatory Authority.
- (iv) Further proposal of expansion/amalgamation of mine shall only be considered only when full compliance of this EC conditions alongwith compliance of Remediation plan and Natural & Community Resource Augmentation plan for amount Rs 127 lakhs only is accomplished.
- (v) PP shall submit Stage-I FC required for regularization of 21.66 ha prior to issue of Environment Clearance.
- (vi) PP to submit the tree implementation plan along the road side of transportation route including mine periphery area within 2 months from date of issue of minutes to IRO, MoEF&CC. A detailed report with GIS images of every 3 months subsequently be submitted in every six monthly report to justify the adequate tree plantation.
- (vii) PP to earmark additional Rs. 50 lakh to address the issues arose during public hearing, which should be implemented within 2 years. Plan in this regard should be submitted within 3 months

to IRO, MoEF&CC.

- (viii) PP shall transport coal and stowing material (sand or bottom ash) from 40-50 tonne trucks/dumpers to reduce the overall fleet size. SPCB should check the size of trucks/dumpers deployed prior to grant of CTO.*
- (ix) PP shall submit fund of Rs. 335.68 lakhs allocated for implementation of Wildlife Conservation Plan prepared for Ramagundam Region mines including Vakilpalli Underground Mine to Forest Department within six months of issue of this letter.*
- (x) PP shall comply with recommendation of Standing committee of NBWL and deposit Rs. 821.76 Lakhs for wildlife mitigation measures*
- (xi) Approval/permission of the CGWA/SGWA shall be obtained before drawing ground water for the project activities, if applicable. State Pollution Control Board (SPCB) concerned shall not issue Consent to Operate (CTO) till the project proponent obtains such permission.*
- (xii) The Environmental Clearance will not be operational till such time the Project Proponent complies with all the statutory requirements and judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xiii) State Government concerned shall ensure that mining operation shall not commence till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of judgment of Hon'ble Supreme Court dated the 2nd August 2017 in Writ Petition (Civil) No. 114 of 2014 in the matter of Common Cause versus Union of India and Ors.*
- (xiv) PP shall implement additional (if already existing) 50 bed capacity hospital within in 2 years in the nearest town of project area within 10 km buffer zone.*
- (xv) PP shall provide drinking water facility to nearby villages through piped system*
- (xvi) Effective dust suppression system shall be adopted at the transportation site and in the other parts of the mining lease to arrest the fugitive dust emission*
- (xvii) Project proponent shall take necessary other clearances/permissions under various Acts and Rules if any, from the respective authorities / department.*
- (xviii) PP shall install online water quality monitoring system for checking the quality of mine water and display outside main gate of colliery before discharge from its settling pond.*
- (xix) PP shall monitor heavy metals in ground water and bottom ash on quarterly basis and submit it to State Pollution Control Board. Also, TCLP test of bottom ash shall be conducted on quarterly basis to identify the leachate property.*
- (xx) PP shall conduct subsidence study from independent international level expert and submit it to Ministry's IRO within six months and further implement all the recommendation.*
- (xxi) State Government/SPCB to take action against the Project Proponent under the provision of Section 19 of the E(P) Act.*
- (xxii) In pursuance to the Ministry's OM dated 30.09.2020, Project Proponent shall take up the activities for community development under EMP*
- (xxiii) PP must also install solar lights along the roads too which are to be constructed by PP as mentioned above conditions in all the villages*

- (xxiv) *PP shall submit the yearly status of mine closure activity to be pursued for final mine closure and furnish the detail to the respective IRO in April,2023*
- (xxv) *PP must obtain 4.5-star rating of MoC in the year 2022-23 and report shall be submitted to IRO.*
- (xxvi) *Periodical health check-up shall be conducted to monitor the impact of heavy metals present in core zone & buffer zone air quality and also to prepare an action plan to reduce heavy metals concentration and also report to be submitted to concerned regional office of MoEF&CC.*

Agenda No. 27.2

Manoharpur and Dipside Manoharpur Coal Mine Project (Expansion of Manoharpur Coal Mine from 8 MTPA to 16 MTPA with increase in project area from 977.875 to 1848.379 ha) of M/s Odisha Coal and Power Limited located in Villages Manoharpur, Paramanandpur, Kathafali, Ghumudasan, Dulanga, Durubaga, Katarbaga, Laikera and Sarbahal Tehsil Hemgir District Sundargarh (Orissa) - For Environmental Clearance -reg

[Online proposal No. IA/OR/CMIN/19231/2008; J-11015/139/2008-IA.II(M)]

27.2.1 The proposal is for Environment Clearance of Manoharpur and Dipside Manoharpur Coal Mine Project (Expansion of Manoharpur Coal Mine of production capacity from 8 MTPA to 16 MTPA with increase in project area from 977.875 to 1848.379 ha) of M/s Odisha Coal and Power Limited located in Villages Manoharpur, Paramanandpur, Kathafali, Ghumudasan, Dulanga, Durubaga, Katarbaga, Laikera and Sarbahal Tehsil Hemgir District Sundargarh (Orissa)

27.2.2 The details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Toposheet No F44 R13 and F44 R9 and is bound by the geographical coordinate's ranging from Latitude 21° 55' 52.168" to 21° 58' 16.871" N and Longitudes 83° 44' 41.287" to 83° 47' 42.750" E.
- (ii) Coal linkage of the project is proposed for OPGC expansion power plant for unit 3 & 4 (2 x 660 MW) and unit 5 & 6 (2 x 660 MW) when it comes up. The surplus coal after meeting the EUP requirement will be sold / utilized as per the government directives and / or in accordance with the Clause no. 8 of Allotment Agreement and hence the surplus coal may be sold to any consumer from the pit head or nearest railway siding.
- (iii) Odisha Coal and Power Limited (OCPL) is a Government Company of State of Odisha and was formed as a joint venture company of Odisha Power Generation Corporation Limited (OPGC) and Odisha Hydro Power Corporation Limited (OHPC), with a shareholding pattern of 51% and 49%, respectively.
- (iv) Project does not fall in any Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation, employment to 705 persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of employment opportunities (direct as well as

indirect), Infrastructure & other social development, and overall development of area and country etc.

- (vii) Earlier, the Environment Clearance to the project was obtained under EIA Notification 2006 vide Ministry's letter No. J-11015/139.2008-IA.II (M) dated 21.02.2014 for 8 MTPA in mine lease area of 977.875 ha by previous allottee i.e. OPGC. On allocation of the coal block to OCPL the same has been transferred in favour of OCPL vide EC letter dated 30.12.2015 and amended vide EC letter dated 06.11.2019.
- (viii) Terms of Reference for proposed expansion project has been granted on 29.04.2020.
- (ix) Total mining lease area as per block allotment is 1337.885 ha (within Block). Whereas, as per approved Mine Plan total ML area is 1781.591 ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by the Ministry of Coal, Government of India on 26.09.2019, with corrigendum on 01.10.2019.
- (x) The land usage pattern of the project is as follows

Sl. No.	Classification of Land	Area Inside the block	Area outside block	Total
1	Forest Land	474.287	134.918	609.205
2	Agricultural Land	339.364	163.446	502.810
4	Homestead land	14.032	4.438	18.47
3	Barren Land	431.723	122.173	553.896
5	Grazing Land	51.401	15.820	67.221
6	Water Body	27.078	2.911	29.989
Total Land within proposed Mining Lease		1337.885	443.706	1781.591
Land for Colony for MO & Owner and other outside mining lease area				
1	Agricultural Land		28.317	28.317
2	Barren Land		29.032	29.032
3	Forest Land		9.439	9.439
Total Land outside proposed Mining Lease			66.788	66.788
Total Project Area		1337.885	510.494	1848.379

Post Mining

Sl. No.	Land use during mining	Land Use (Post Closure)					
		Plantation	Water body	Public/ Company Use	Forest Land (Returned)	Undisturbed Land	Total
1.	Excavation Area						0
2.	Backfilled Area	426.514	52.5	41.781	609.205		1130.00
3.	Excavated Void	104.44					104.44

Sl. No.	Land use during mining	Land Use (Post Closure)					
		Plantation	Water body	Public/ Company Use	Forest Land (Returned)	Undisturbed Land	Total
4.	Top soil Dump	10.84					10.84
5.	External Dump	269.51					269.51
6.	Safety Zone/ Rationlisatn	16.00					16.00
7.	Diversion/below river/nala/ canal		5.36				5.36
8.	Road & Infrastructure Area	107.727		47.439			155.166
9.	Garland Drains		6.77				6.77
10.	Embankment	13.0		3.85			16.85
11.	Green Belt	50.0					50.0
12.	Water Reservoir near pit/ water body		8.56				8.56
13.	Colony	20.234		37.115	9.439		66.788
14.	Undisturbed/ Mining Right for UG					8.095	8.095
		1018.265	73.19	130.185	618.644	8.095	1848.379

- (xi) Total geological reserve reported in the mine lease area is 978.4706 MT and 664.239 MT are mineable reserve. Out of total mineable reserve of 664.239 MT, 636.309 MT are available for extraction. Percent of extraction is 65 %.
- (xii) Fourteen coal seams with thickness ranging from 4 m to 42 m are workable. Grade of coal is G14 (Major grade varies from G12-G15), stripping ratio 2.75:1, while gradient is 1:10.
- (xiii) Method of mining operation is envisaged by opencast method.
- (xiv) Life of mine is 44 years.
- (xv) The project has two OB dumps (OB dump-1 & 2) inside lease in an area of 269.510 ha with maximum height 90 m & 120 m and 15.42 Mm³ & 152.50 M³ of OB, respectively. At the end of OC mining operation after 44 years internal OB in an area of 854.40 ha with 1576.85 Mm³ of OB backfilling is envisaged in the project.
- (xvi) Total quarry area is 1234.44 ha out of which backfilling will be done in 854.40 ha while final mine void will be created in an area of 380.04 ha with a depth of 180-410 m. During mine closure period upper tier of internal dump will be rehandled and brought back to the unfilled void area. Thus, the void depth will be reduced to 60-90 m (slopping towards dip side). At post closure stage 52.5 ha void will be converted into water body & rest will be reclaimed with plantation&

grass carpeting.

- (xvii) Transportation of coal has been proposed by Dumpers / trucks from OC pit to the pit head stockpile / CHP / Wharf wall. From there, coal will be transported by road through Dumpers/ tippers to siding / by conveyor to silo loading onto MGR Rakes. Surplus coal will be delivered to the consumers at the pit head / nearest railway siding.
- (xviii) Reclamation Plan in an area of 1018.265 ha, comprising of 280.35 ha of external OB and top soil dump, 530.954 ha of internal dump/ backfilled dump, 50 ha green belt, 16 ha under safety zone/ rationalisation area, 107.727 ha roads & infrastructure area, 13 ha embankment area and 20.234 ha colony area.
- (xix) 618.644 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 276.655 ha of forest land for non-forestry purposes, Stage I and Stage II Forest Clearance has already been obtained vide letter no F.No.8-63/2011-FC dated 17.10.2012 and F.No.8-63/2011-FC dt. 20.08.2014, respectively. Application for balance forest land (342.87 Ha) has been made to MoEF&CC & updated on 31.12.2019 and the same is under process, which will be required after 12th year of operation as initially the mine will be operated in Manoharpur Coal Block only.
- (xx) There are no National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xxi) An integrated site specific wildlife conservation plan (WLCP) for Manoharpur and Dipside Manoharpur Coal Block has been approved by office of the Principal Chief Conservator of Forests (Wildlife) and Chief Wildlife Warden Odisha vide letter No. 9805/CWLW-FDWC-FD-0133-2021 dated October 4, 2021.
- (xxii) The ground water level has been reported to be varying between 1.5 m to 10.45 m during pre-monsoon and between 0.5 m bgl to 8.30 m during post-monsoon. Total water requirement for the project is 3920 KLD (potable water 390 KLD & industrial water 3530 KLD).
- (xxiii) Permission for dewatering in Manoharpur Coal Mine (mine depth up to 210 m) has been obtained from CGWA vide letter dated 19.07.2018. Extension of existing NOC has been applied to CGWA vide letter dt. 06.01.2021 which is under process. Permission for dewatering in Dip-side Manoharpur Coal Block will be obtained at an appropriate stage as the depth of mining, as per approved Mining Plan (Rev III), will exceed the 200m after 20th year (i.e. 2038-39).
- (xxiv) Public hearing for the project of 16 MTPA in a project area of 1848.379 ha was held on 23.03.2021 at village Kathafali, Gram Panchayat Durubaga, Tehsil Hemgir, Dist Sundargarh, Odisha under the Chairmanship of Addl. District Magistrate, Sundargarh. Major issues raised in the public hearing include blast vibration, deforestation, pollution control measures, Land Acquisition and R&R, employment opportunity, infrastructure development, etc. Appropriate action to address the issues raised in the Public hearing have already been proposed to be taken as submitted with basic information sheet.
- (xxv) Consent to Operate (CTO) for existing 8 MTPA production was obtained from OSPCB and it is being renewed regularly. Last CTO was issued on 23.03.2021 and is valid till 31.03.2022.
- (xxvi) Garia Nalla and Lapani Nala are flowing through the ML will be diverted in consultation with the Dept. of Water Resources, Government of Odisha.

- (xxvii) Regular monitoring of ambient air quality is being carried out on fortnightly basis. The documented report is being submitted to Regional Officer, OSPCB and also to MoEF&CC along with half yearly EC compliance report. In general, the results of ambient air quality monitoring data were found within prescribed limits.
- (xxviii) No court cases, violation cases are pending against the project of the PP.
- (xxix) The project does not involve violation of the EIA Notification, 2006 and amendment issued there under. No excess production of coal from the sanctioned capacity has been realized since the commencement of mining operations.
- (xxx) The project involves approximately 1215 project affected families (PAFs) and 599 project Displaced Family (PDFs). R&R of the PDFs is being done as per Odisha R&R Policy'2006.
- (xxxi) Total cost of project as on date is about Rs. 3472 Crores. Cost of production is Rs 620.74 per tonne @100% level of production. CSR cost will be 2% of the average profit of three years as per Companies Act, R&R cost is 215 crores. Environment Management Cost is Rs. 31.84 crore (capital) and Rs 24.14 Crore per year (recurring).

27.2.3 The EAC during deliberations noted the followings:

- (i) Earlier, the Environment Clearance to the project was granted under EIA Notification 2006 vide Ministry's letter No. J-11015/139.2008-IA.II (M) dated 21.02.2014 for 8 MTPA in mine lease area of 977.875 ha to previous allottee i.e. OPGC. On allocation of the coal block to M/s Odisha Coal & Power Limited (OCPL) the same has been transferred in favour of M/s OCPL vide EC letter dated 30.12.2015 and amended vide EC letter dated 06.11.2019.
- (ii) Ministry of Coal, Government of India vide their vesting order no 103/25/2015/NA, dated 31st August 2015 has allotted the Odisha Power Generation Corporation Ltd in favour of M/s Odisha Coal and Power Limited as a successful bidder under clause (b) of sub-rule (2) of rule 7 and sub-rule (1) of rule 13 of the Coal Mines (Special Provisions) Rules 2014 read with clause (b) of sub-section (3) of Section 6 and sub-section (3) of Section 8 of the Coal Mines (Special Provisions)
- (iii) ToR was issued for expansion from 8 to 16 MTPA with increase in project area from 977.875 to 1848.379 ha to OCPL vide letter No. J-11015/139.2008-IA.II (M) dated 29.04.2020.
- (iv) As per approved Mine Plan, total ML area is 1781.591 ha and for development of colony, 66.788 Ha is proposed with 9.439 ha of forest land.
- (v) 618.644 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 276.655 ha of forest land for non-forestry purposes, Stage I and Stage II Forest Clearance has already been obtained vide letter no F.No.8-63/2011-FC dated 17.10.2012 and F.No.8-63/2011-FC dt. 20.08.2014, respectively.
- (vi) Application for balance forest land (342.87 Ha) has been made to MoEF&CC & updated on 31.12.2019. as per the approved Mining Plan (Rev III). Thereafter, the forest diversion proposal (342.87 Ha) was examined at various levels i.e. DFO, RCCF etc. and compliance to their observation were complied by OCPL. However, after rigorous follow-up with the concerned authorities, now the proposal is at PCCF level and will be recommended to

MoEF&CC by State Govt. for the issuance of FC stage I. Because of COVID 19 Pandemic Situation, obtaining of Stage I clearance has been delayed.

- (vii) Certified Compliance Report from Integrated Regional Office, Bhubaneswar has been issued vide letter no. 101-674/EPE dated 01.03.2021. Action taken report on issue mentioned in CCR is given to the IRO vide letter Nol CPL/202 dated 06.04.2021
- (viii) Permission for the drawl of water (1.602 Cusec) from Hirakud reservoir has been obtained from DoWR, Govt. of Odisha vide letter dated 27.07.2021
- (ix) Garia stream is about 1.6 km in Manoharpur Coal Block in SE direction and 1.85km in Dip side of Manoharpur Coal Block along northern boundary; while Lapani stream is about 3.35 km in Dipside Manoharpur Coal Block in SW portion along boundary.
- (x) Manoharpur coal block was explored and Dip-side Manoharpur coal block was unexplored at the time of allocation to OCPL by Ministry of Coal. Dip side block has later been explored in detail and continuation of occurrence of coal seams towards west upto the final block limit of the dip side. As suggested by Technical members of Standing Committee, MoC, a combined Mining Plan including Mine Closure Plan (Rev-III) has been prepared which was approved by MoC vide letter dated 26.09.2019 and subsequent corrigendum dated 1.10.2019 to carry out the mining operation in Manoharpur Coal block and subsequently in Dip side Manoharpur Block with the production capacity of 16 MTPA (PRC).
- (xi) Air quality monitoring was conducted at 11 locations. The result indicates that the maximum and minimum values of PM₁₀ are 55.1 to 73.9 $\mu\text{g}/\text{m}^3$, whereas the PM_{2.5} are 30.0 to 43.8 $\mu\text{g}/\text{m}^3$. The SO₂ concentrations are in the range of 7.3 to 22.2 $\mu\text{g}/\text{m}^3$ and the NO₂ are 9.1 to 26.0 $\mu\text{g}/\text{m}^3$. The incremental increase due to mining activity are projected to be 10.34 $\mu\text{g}/\text{m}^3$ for PM₁₀, 3.48 $\mu\text{g}/\text{m}^3$ for PM_{2.5}, 14.15 $\mu\text{g}/\text{m}^3$ for SO₂, and 28.52 $\mu\text{g}/\text{m}^3$ for NO₂. Total GLC is 84.24 $\mu\text{g}/\text{m}^3$ for PM₁₀, 47.28 $\mu\text{g}/\text{m}^3$ for PM_{2.5}, 36.35 $\mu\text{g}/\text{m}^3$ for SO₂, and 54.52 $\mu\text{g}/\text{m}^3$ for NO₂. The observed pollutant levels were compared with CPCB National Ambient Air Quality Standards and found to be within the permissible limits.
- Surface water sample were collected at 9 locations i.e. Manoharpur coal mine (sump water), Paramanandpur Village (pond), Brahmani Nala near brahmani Village, Mundadhipa Village (pond), Kundra Village (pond), Basundhara Nala, upstream near Sakokarla, Basundhara Nala, downstream near Kanaktura, Garia Nala near Kalamega Village and Brahmani Nala near Ghumra Village. The result indicates that the maximum and minimum values of Turbidity are 0.5 to 5.93 mg/l, TDS from 40 to 148 mg/l, TSS from 2 to 18 mg/l, DO ranged between 7.9 to 9.5 mg/l, BOD ranged from 2.5 to 12.5 mg/l, COD ranged from 7 to 31 mg/l, Total Hardness ranged between 20 to 112 mg/l, Iron ranged from below detection limit to 1.11 mg/l, Fluoride ranged from below detection limit to 0.66 mg/l, etc

27.2.4 The EAC, after deliberations observed that around 85 % of coal will be excavated through surface miner and remaining 15 % by drilling & blasting because of slopes in seam. Further it was noted that complete forest clearance within the mine lease has not been obtained by PP. Out of 618.644 ha of forest land, stage-1&2 FC has been granted for 276.655 ha of forest land. It was also noted that 9.439 Ha of Forest land is proposed for colony development and 60 ha land to be used OB dumping.

In this regard, EAC mandatorily asked PP to avoid the forest area for non-coal extraction activity i.e infrastructure development including proposed colony or OB dumping and further asked PP to reclaim the forest area after re handling of OB dump lying in forest area. EAC also noted that full land acquisition of 1848.379 Ha has not been acquired by PP wherein 1781.591 ha is mine area (allotted lease area of 1337.885 ha) and 66.788 ha belongs to colony development.

While enquiring mode of transportation of coal, PP informed that about 8 MTPA coal will be transported by dedicated Merry Go Round (MGR) from mine to OPGC expansion power plant for unit 3 and 4 and another, 8 MTPA coal will also be transported by dedicated MGR from mine to OPGC expansion power plant for unit 5 and 6 (2 x 660 MW) when it comes up. In case of non-availability of MGR, coal shall be transported to OPGC through the nearest railway siding; however, the CHP and Rapid loading system is under construction till that period coal will be transported by Road. EAC noted that this is also one of non-compliances of existing EC condition and asked PP to expedite implementation in a proper time bound manner. EAC also found that PP earlier wanted to take amendment for selling the surplus coal to other end users for which Ministry desired that PP should take necessary amendment in EC for transporting coal to other consumers with traffic impact assessment study. The same has not been submitted and accordingly EAC emphasized PP take action for compliance of EC conditions and take suitable amendments.

EAC opined to explore the possibility of conserving both the stream (Lapnai & Garia) as these are first order stream, as seen from kml file, traversing their route from lush green land and maintains the drainage of catchment area. It was emerged that the base line study was done during 1st December 2019 to 29th February 2020 when the production was achieved merely 2.5 MTPA. Therefore, EAC recommended to re-conduct baseline study when 75% of mine production (6 MTPA) is achieved. EAC also observed that as per approved mining plan (Rev. III), coal washery will be installed. During deliberation, the committee also noted the poor compliance of existing EC like inadequate arrangement of toe wall, garland drain, inadequate fleet size, plantation, non-implementation of conveyor belt etc. Therefore, in view of non-compliances and pre-matured and non-representative data for the expansion, it was advised to resubmit the EIA-EMP by taking fresh background data with adequate EMP plan.

Accordingly, EAC desired the following additional information from PP

- (i) PP shall limit the activities of mining in its mine lease area only. No OB Dumping and infrastructure activity should be proposed and dumped on forest land. The already proposed 60 ha of forest land for OB dumping shall not use and plan of action for tree plantation in 30 ha (already deforested) shall be submitted. Accordingly revised Mine Plan should be submitted (if required).*
- (ii) The acquisition status of 1848.379 Ha land must be furnished by PP and clearly define the area covered under forest and list of activities in and out of mine lease area.*
- (iii) PP shall provide a proper bifurcation of land use for colony proposed by PP by avoiding the forest area of 9.439 Ha. Therefore, revised layout plan to be given.*

- (iv) PP shall provide alternate land for grazing purpose and water body of same area as in landuse plan during pre-mining activity.
- (v) PP to submit the revised EIA/ EMP report with revised Form-2.
- (vi) Stage-I Forest clearance for diversion of forest land within mine lease area to be submitted by optimization the land use as suggested by EAC.
- (vii) Base line monitoring shall be re-conducted to represent the production status of at least 6 MTPA of existing EC and accordingly revise the EMP.
- (viii) PP should provide the OB dump re-handling plan with proper implementation of mitigation measures for air pollution with budgetary provision with reclamation of the respective forest area.
- (ix) PP must explore and provide the conservation plan to protect Garia and Lapani stream instead of diverting these streams. Environmental cost-benefit (in terms of coal production/reserves with EMP measures) should be supported with the proposal.
- (x) PP shall clarify regarding envisaged coal washery since ToR is only granted for Coal mine expansion.
- (xi) PP to prepare EMP in conjunction with state action plan drawn IB valley as declared as SPA.
- (xii) Air Pollution is the major issue discussed in the public hearing and PP had mentioned that CHP and RLS is to be completed and commissioned by, June, 2022 but not yet started so PP must provide a time bound action plan for its implementation.
- (xiii) PP shall strengthen the toe wall along the OB dump by cementing it.
- (xiv) Time bound action plan with budgetary provision for commitment made on the issues raised during public hearing
- (xv) PP to submit the compliance status of existing EC condition in a time bound manner
- (xvi) PP shall submit separate proposal of amendment in earlier EC incase of transportation of surplus coal to other consumers with traffic impact assessment study as desired by Ministry vide its letter dated 31st December, 2021.

The proposal is **returned** on above lines

Agenda No. 27.3

Wet Type Coal Washery Project based on Heavy Media Cyclone of production capacity 2.5 MTPA in an area of 15 acres (6.07 ha) of M/s R.K Transport & Constructions Limited located at Village Gorbi, Tehsil Chitrangi, District Singrauli (Madhya Pradesh)- For Environmental Clearance – reg

[Online proposal IA/MP/CMIN/182374/2020, File No J-11015/21/2020-IAII(M)]

27.3.1 The proposal is for grant of Environmental Clearance for Wet Type Coal Washery Project based on Heavy Media Cyclone with production capacity of 2.5 MTPA in an area 6.07 ha of M/s R.K Transport & Constructions Limited located at Village Gorbi, Tehsil Chitrangi, District Singrauli

(Madhya Pradesh).

27.3.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Toposheet No-G44W11 and is bounded by the geographical coordinates ranging from 24°12'19.74"N to 24°12'20.89"N and longitudes 82°36'59.32"E and 82°37'12.52"E.
- (ii) No forest land involves for current project.
- (iii) No Coal definite linkage of the project is proposed. Washed coal will be supplied to nearby steel plant and rejects will be supplied to power plant. MoU to be executed for rejects.
- (iv) The raw coal from NCL mines mainly from Gorbi/Block B, Jayant Coal Mine and Dudhichua Coal and other mines will be transported by Road only. Washed coal from the plant will be transported by road in covered trucks directly to the customer (or) by road upto nearest railway station (Manadiya Railway siding–2.8 Kms towards West direction and Singrauli station Railway Siding is at 2.6 Kms towards East direction) and from there by rail to the customer. Washery rejects from the plant will be transported by road in covered trucks directly to the customer (or) by road upto nearest railway station nearest railway station (Manadiya Railway siding–2.8 Kms towards West direction and Singrauli station Railway Siding is at 2.6 kms towards East direction) and from there by rail to the customer.
- (v) No Joint venture for current proposal.
- (vi) PP claimed that project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (vii) Employment generation, 75 employment and job will be given to nearby project.
- (viii) The project is reported to be beneficial in terms of jobs and improvement of local infrastructure and revenue generation for government.
- (ix) Term of Reference was granted by Vide File No-J-11015/21/2020-IA-II(M), dated 01.01.2021.
- (x) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones fall within 10 km boundary of the project.
- (xi) The ground water level has been reported to be varying between 4.13 m to 18.50 m during pre-monsoon and between 2.94 m to 15.17m during post-monsoon. Total water requirement for the project is 490 KLD.
- (xii) Public hearing for the project of 2.5 MTPA capacity in an area of 15 Acres was conducted on 8.11.2021 at Village-Gorbi, near project Site under the Chairmanship of Shri D.P Barman, Additional District Magistrate, Singrauli, M.P Major issues raised in the public hearing include priority to locals for Jobs and water pollution. No River/nalla is flowing within project boundary.
- (xiii) No court cases, violation cases are pending against the project of the PP.
- (xiv) The project does not involve violation of the EIA Notification, 2006 and amendment issued the

reunder. The coal production from the mine was started from the year onwards.

- (xv) No R&R involves for current project.
- (xvi) Total project cost is 25 crore.
- (xvii) 75 persons will get direct employment from the project.
- (xviii) 2.5 MW electricity will be required for the project. It will be supplied by Madhya Pradesh Power Generation Company Limited.
- (xix) The site has good connectivity to railway siding (public siding at Singrauli railway station, about 2.5km away) and road.
- (xx) Land identified for the project is 15 acres. 5 acres land has been earmarked for greenbelt development.
- (xxi) 500 m³/day water will be required for the coal washing. Ground Water will be used. Wastewater produced after coal washing will be treated in an elaborate ETP in close circuit. The water after treatment will be reused for coal washing

27.3.3 The EAC during deliberations noted the following:-

- ToR was granted vide letter no-J-11015/21/2020-IA-II.(M) on 01.01.2021 with several specific condition including conducting cumulative impact assessment through independent institution, being area falls under Severally polluted Zone. As per the EIA-EMP report it is noted that several coal mines and one washery are functional with 10 km of project area. However, impact due to these mines has not been included properly.
- No forest land is involved in the project area.
- PP has submitted a letter dated 03.03.2022 from RO, MPPCB claiming that area does not fall under CPA/SPA as per the coordinate given therein. On examination it was found that site coordinates as reported by PP are 24°12'19.74"N to 24°12'20.89"N and longitudes 82°36'59.32"E and 82°37'12.52"E, which does not match with the coordinates ranges provided to RO, MPPCB's (24°12'17.982 N 82°37'6.764"E). These coordinates need to be compared with pillar points no. 11 & 12, which are close to CPA boundaries.
- There is inconsistency in the bifurcation of the land use as among detailed given in EIA report, PPT and form -2. PP has submitted different submission. There should follow single version of truth, being site lies in/ or near to CPA (matter of further verification).
- Baseline data has been collected during 1st Dec. 2020 to 28th Feb., 2021(Winter Season). Air monitoring was conducted on 8 locations. The result indicates that maximum and minimum values of PM₁₀ are in the range of 63.4 to 89.7 µg/m³, PM_{2.5} are 38 to 51.4 µg/m³, SO₂ are 6.3 to 12.8 µg/m³ and the NO_x are in the range of 10.5 to 34.8 µg/m³. The incremental increase in the values was projected to be 3.6 µg/m³ for PM₁₀. The observed pollutant levels were compared with CPCB. National Ambient Air Quality Standards and found to be within prescribed norms.
- ISCST3 model has been used to predict the impact on air quality. The model uses regulatory defaults options and meets the guidelines developed by CPCB (PROBES/70/1997-1998),

which is quite old. The predicted air modelling needs to be conducted with latest models like AERMOD as it will provide a clear picture of the incremental values.

- Surface water sample has been collected from 12 different locations within study period. The results indicate that by adopting the environmental protection measures. The result indicates that the maximum and minimum values of DO ranges between 1.3 to 4.1 mg/l, TDS between 385 to 850 mg/l, COD between 102 to 202 mg/l, BOD between 18.8 to 57.8 mg/l. From the data of DO and BOD it revealed that water quality in the area is severely impacted due to organic load and far exceeding bathing water quality standards.

27.3.4 The EAC after deliberations observed the instant proposal is a green field project but its location fall in Singrauli district, which is already declared as severally polluted area as per the current CEPI score (62.59). PP however, claimed that project site fall outside the boundaries of CPA, which has been defined by SPCB/CPCB in their submission before NGT. The matter was further examined and noted that there are inconsistencies in coordinates (already mentioned above), as given by PP for EC and values reflected in IRO letter. Therefore, it was desired that PP must check the coordinate properly based on EIA-EMP report and get is verified by Member Secretary, MPPCB. This requires mandatorily as currently there is ban on new/expansion of project in singrauli area. PP has also proposed to use railway siding which is at distance of 4-5 km from the coal washery. Therefore, it also needs to be clarified that whether railway siding area is away or within the CPA/SPA area or contributing the pollution in CPA/SPA area due to transportation.

Further EAC noted that primary survey of socio economic study is not provided in EIA/ EMP report, which has only detail of Census 2011. The raw coal and the washed coal is proposed to be transported by railway from mine to national highway covering distance of 2 to 3 km till railway siding. EAC recommended PP to construct motorable haul road from site to the highway with proper green belt development along the road sides. Upon discussion it was emerged that PP can provide water supply to nearby village as dedicated line is already proposed for washery consumption. It was also seen that bifurcation of proposed CSR activity in time bound manner with budgetary provision was not provided by PP. While conducting cumulative impact assessment study the coal mines located within the study area are not taken care of; only one coal washery located at 4.8 km was taken into consideration, which need to be redone for assessment of cumulative impact study.

In view of above, EAC desired certain additional information from PP on followings:

- Due to inconsistencies of coordinates, PP must clarify that coordinates of project sites as given in EIA-EMP report will not fall within boundaries of CPA (w.r.t. nearest points project site). A confirmation/vetting letter in this regard should be submitted from Member Secretary in SPCB.*
- The cumulative impact assessment study of the area, being already severely polluted, needs to be reassessed in view of several coal mines already operating within command area and; accordingly, air modelling needs to be done with latest modal.*
- The proposed bifurcation of CER and CSR activity in time bound manner with budgetary*

provision needs to be furnished by PP

- (iv) *The socio-economic study needs revision based on primary data in light of facilitation of infrastructure to be created under CSR activities.*
- (v) *EMP measure to be adopted as per the state action plan for abatement of pollution in Singrauli District provided by MPPCB, which are not furnished in EIA/EMP report.*
- (vi) *The proper land use break- up of the project site to be provided in Ha*
- (vii) *The detail of the provision of supplying clean drinking water to the nearby villages to be given by PP with timeline.*

*The proposal is **deferred** on above lines*

Agenda No. 27.4

Siarmal Opencast coal mining project of 40 MTPA (Normative)/50 MTPA (peak) of M/s Mahanadi Coalfields Limited in mine lease area of 2290.45 ha (Project Area - 2580.45 ha) located in District Sundargarh (Odisha) – For Reconsideration of Environmental Clearance - reg.

[Online proposal IA/OR/CMIN/24164/2014; F. No. J-11015/230/2014-IA-II(M)]

27.4.1 The proposal is for Environmental Clearance to Siarmal Opencast coal mining project of 40 MTPA (Normative)/50 MTPA (peak) of M/s Mahanadi Coalfields Limited in mine lease area of 2475.47 ha located in District Sundargarh (Odisha).

27.4.2 Details of the proposal, as ascertained from the proposal documents and as revealed from the discussion held during the meeting, also the additional information provided by PP are given as under:

- (i) The project area is covered under Survey of India Topo-Sheet No. 64N/12 (RF 1:50000) and is bounded by the geographical coordinates ranging from to 22o 01' 19" to 22o 03' 59.99" North and longitudes 83o 37' 09" to 83o 42' 49.58" East.
- (ii) Coal linkage of the project: Basket linkage
- (iii) Project does not fall in the Critically Polluted Area (CPA) where the MoEF&CC's vide its OM dated 13th January, 2010 has imposed moratorium on grant of environment clearance.
- (iv) Employment generation: Direct employment to 3773 persons will be provided from the project.
- (v) The project is reported to be beneficial in terms of Improvement in physical and social infrastructure like roads, school building, provision of drinking water, community hall, plantation etc. Increase in employment potential. Contribution to the Exchequer (both State and Central Govt.). Improvement of Electrical Power Generation and availability of electricity in rural areas. Overall economic growth of the country.
- (vi) It is greenfield project.
- (vii) Terms of reference was granted on 20-02-2015 and again revised ToR was granted on

09.07.2018.

(viii) Total mining lease area as per block allotment is 2290.45 Ha. Mining Plan (Including Progressive Mine Closure Plan) has been approved by 198th MCL Board held on 31-01-2018.

(ix) The land usage pattern of the project is as follows:

Pre Mining Land Use

Sl. No	Type of Land	Within ML area	Outside ML area	Total Area
1.	Agricultural	1382.408	0.00	1382.408
2.	Forest	349.709	0.00	349.709
3.	Waste land	126.216	0.00	126.216
4.	Grazing	131.789	0.00	131.789
5.	Surface water bodies	48.227	0.00	48.227
6.	Settlements	44.970	0.00	44.970
7.	Others	207.131	290.00	497.131
Total		2290.45	290.00	2580.45

Land Use Break Up- Post-Mining

Sl. No.	Land Use Category	Land use in Ha.				
		Plantation	Water Body	Public - Use	Undisturbed	Total
1.	Quarry excavation area	409.99	549.69	586.64	0.00	1546.32
2.	Safety Zone	18.59	0.00	0.00	0.00	18.59
3.	OB dump (external)	386.08	0.00	0.00	0.00	386.08
4.	Embankment	18.00	0.00	0.00	10.30	28.30
5.	Infrastructure	8.00	0.00	0.00	34.82	42.82
6.	Undisturbed Area	74.41	0.00	0.00	193.93	268.34
7.	Residential Colony	14.00	0.00	56.00	0.00	70.00
8.	Others (R&R and Diversion of road & railway link)	38.00	0.00	182.00	0.00	220.00
Total:		967.07	549.69	824.64	239.05	2580.45

(x) Total geological reserve reported in the mine lease area is 1895.43 MT with 1618.21 MT mineable reserves. Out of total mineable reserve of 1618.21 MT, 1547.82 MT are available for extraction. Percent of extraction is 95.65 %.

(xi) 16 seams with thickness ranging from 1m–27m are workable. Grade of coal is G-11, Stripping ratio 1.47 cum/tonne while gradient is 3o to 5o.

- (xii) Method of mining operations envisages by Opencast Mining method by Shovel – Dumper in OB and Surface miner, pay loader & tipper in coal.
- (xiii) Life of mine is 38 years.
- (xiv) The project has two external OB dumps in an area of 386.08 ha with 82-85 m height and 184.72 Mm³ of OB and two internal OB in an area of 996.63 ha with 2007.79 Mm³ of OB is envisaged in the project.
- (xv) Total quarry area is 1546.32 ha out of which backfilling will be done in 996.63 Ha while final mine void will be created in an area of 549.69 Ha with a depth of 155 m. Backfilled quarry area of 996.63 ha shall be reclaimed with plantation. Final mine void will be converted into a water body.
- (xvi) Transportation of coal has been proposed partly by dumper and in pit conveyor system in mine pit head, from surface to siding by Conveyor transport and at sidings by Pay loader/ Silo to rail wagon by rapid loading system.
- (xvii) Reclamation Plan in a total area of 1553.71 Ha, comprises of 386.08 Ha of external dump and 996.63 ha of internal dump. In addition to this, an area of 18.59 Ha included in the safety zone, 18.0 Ha in embankment and 74.41 Ha for blasting danger zone has also been proposed for green belt development.
- (xviii) 349.709 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 349.709 ha of forest land for non-forestry purposes has been submitted vide proposal no. FP/OR/MIN/32796/2018 to MoEF&CC. The proposal has been considered in the FAC meeting scheduled on 21.02.2022. Additional information sought by MoEF&CC for which reply has been submitted On 28.02.2022.
- (xix) No National Parks, Wildlife Sanctuaries and Eco-Sensitive Zones have been reported with 10 km boundary of the project.
- (xx) No schedule-I species reported while conducting the baseline flora fauna study. However, Site Specific wildlife conservation plan will be submitted by the PP during FC Stage I compliance.
- (xxi) The ground water level has been reported to be varying between 1.85 m to 8.42 m during pre-monsoon and between 1.15 m to 4.57 m during post-monsoon. Total water requirement for the project is 10704 KLD.
- (xxii) Application for obtaining the approval of the Central Ground Water Authority has been obtained vide CGWA/NOC/MIN/ORIG/2020/9246 dated 09.12.2020.
- (xxiii) Public hearing for the project of 50 MTPA capacity in an area of 2290.45 ha was conducted on 03.01.2019 at Kundren playground at Siarmal Village, Tehsil Hemgir, Dist-Sundargarh. Major issues raised in the public hearing includes Employment, Payment of Compensation, R & R, Dust pollution and issues regarding blasting.
- (xxiv) Consent to Operate for the existing capacity will be obtained from the State PCB after

the grant of EC from MoEF&CC.

- (xxv) Chattarjhor stream is flowing towards East of the boundary lease. The nallah will be straightened in consultation with the Water Resource Department of the State Government.
- (xxvi) As it is a new project, regular monitoring of ambient air quality and the documented report will be submitted to Regional Office, MoEF&CC, and Bhubaneswar and also to MoEF&CC along with half yearly EC compliance report after the grant of EC.
- (xxvii) No court cases, violation cases are pending against the project of the PP. However, the R&R of all the villages falling in this project area are being carried out under the direction of “Claims Commission” appointed by Hon’ble Supreme Court of India.
- (xxviii) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder. The coal production from the mine has not yet started.
- (xxix) The project involves 2427 project affected families. R&R of the PAPs will be done as per Orissa Rehabilitation and Resettlement Policy 2006 under the directions and supervision of Hon’ble Claims Commission formed by the Hon’ble Supreme Court of India.
- (xxx) Total cost of the project is Rs 3756.36 Crores. Cost of production is Rs.311.65 /- per ton, CSR cost is Rs.2 per ton or 2% of the average net profit of the Company of the three immediately preceding financial years whichever is higher, R&R cost is Rs.678.04 Crores. Environment Management Cost is Rs 738.26 Crores.

27.4.3 The EAC during deliberations noted the following:

Earlier, the project was discussed in 47th meeting held on 22nd August, 2019, 1st EAC meeting held during 17th to 18th August, 2020 wherein EAC desired certain information and the proposal was returned in present form due to large number of deficiencies. Also, site visit was proposed in this project, however due to Covid-19 site visit could not be completed. PP has now submitted the point-wise compliance to observations of EAC and provided additional information which are enlisted below:

Sr. No.	Observation of EAC	Compliance
1	Incomplete/incorrect details submitted on PARIVESH Portal shall be corrected by project proponent.	The corrected Form 2 is submitted
2	Permission for Stage-I Forest Clearance for forest land of 349.705 involved in the project..	Forest diversion proposal vide proposal no. FP/OR/MIN/32796/2018 has been submitted to MoEF&CC, GoI, New Delhi on 14.09.2021. EDS has been raised regarding the identification of additional CA land. The CA land has been

		identified under Gopalpur forest range of Sundargarh Forest Division and the DGPS survey has been completed. The DGPS Surveyed Map has been submitted to ORSAC, Bhubaneswar for vetting and authentication by the DFO Sundargarh. The reply to the EDS submitted to PCCF office on 3rd Feb 2022. The proposal is expected to be considered in the FAC meeting, to be held in the month of Feb 2022.
3	Project proponent shall provide year wise production and OB removal plan along with details of land reclaimed and restored. The plan shall contain the year-wise details of land disturbed on account of excavation, internal and external dumping, and land reclaimed and restored	Year wise proposed production schedule, OB removal & backfilling details has been given in EIA/EMP. However, most of the stage reclamation/ mining plans & mine closure plan and land details as required by latest guidelines have been included in the earlier approved Mining Plan & Mine Closure Plan for this project.
4	Mine Closure plan should be as per Ministry of Coal latest guidelines of 2019.	The Mining Plan & Mine Closure Plan for Siarmal OCP (50.0 MTPA) was prepared & approved on 05-02-2018 prior to issuance of Guidance of preparation of Mining Plan & Mine Closure Plan of December 2019 & May 2020 by Ministry of Coal
5	Drainage map of the area shall be shown in toposheet and further zero liquid discharge with water balance should be presented	Provided
6	PP shall study the impact Assessment on the proposed road route on receptors for environment parameters of PM10, PM2.5, SOx and NOx.	In proposed project there is no road transportation outside the lease area, all the coal will be dispatched through the belt conveyor from pit top. As the mine will proceed, provision of in-pit belt conveyor has been provided to further reduce the road transportation. The modelling of PM10 and PM2.5 was also done considering the worst case scenario for 50.0 MTPA coal production considering all activities e.g. loading, unloading, drilling, blasting, transportation etc. However, as an interim arrangement for initial 5 years till the commissioning of conveyor belt and Barpalli loop, the coal will be dispatched through nearby Sardega Siding It was observed that values of PM10, PM2.5, SOx and NOx will remain under permissible limits with proper control measures

7	Permission of extraction of ground water from Central Ground Water Authority	Permission for extraction of ground water from Central Ground Water Authority has been obtained vide CGWA/NOC/MIN/ORIG/2020/9246 dated 09.12.2020																
8	Clarification from District Forest Officer (DFO) regarding no presence of schedule I species in the project area and buffer zone shall be submitted. Distance from Wildlife/National Sanctuary should be substantiated by DFO.	DFO, Sundergarh has vide letter no. 864/ 4F(Misc.)/ 2020 dt:23/02/2021 has clarified that there is no presence of schedule I species in the project area and buffer zone and the distance of Nearest National Park i.e Guru Ghasidas National Park, which is in Chhattisgarh, is about 178 km from the project area																
9	Provision of alternate grazing land shall be proposed by project proponent	<p>Letter vide no. 490 and 756 dated 16.03.2021 and 23.03.2021 respectively received from Tahsildar Hemgir and Lephripada identifying 57.356 Ac (23.21 Ha) of land in sarangi Jharia, 54.97 Ac (22.24 Ha) in Badkhalia and 39.81 Ac (16.11 Ha) in Chatenpali for gochar land. In addition to that the following land have also been identified for grazing purpose</p> <table><tr><th>Sl. No.</th><th>R&R Site</th><th>Grazing Land Allocated</th><th>Remarks</th></tr><tr><td>1</td><td>Chhatenpali R&R Site</td><td>4812.738 Sq Mtr</td><td></td></tr><tr><td>2</td><td>Badhkalia R&R Site</td><td>3000 Sq Mtr</td><td></td></tr><tr><td>3</td><td>Sarangi Jharia R&R Site</td><td>3000 Sq Mtr</td><td>21.9 Acre Additional land also provided</td></tr></table> <p>Total Grazing land: (9.94 +23.21+22.24+16.11) i.e.,71.9 Ha</p>	Sl. No.	R&R Site	Grazing Land Allocated	Remarks	1	Chhatenpali R&R Site	4812.738 Sq Mtr		2	Badhkalia R&R Site	3000 Sq Mtr		3	Sarangi Jharia R&R Site	3000 Sq Mtr	21.9 Acre Additional land also provided
Sl. No.	R&R Site	Grazing Land Allocated	Remarks															
1	Chhatenpali R&R Site	4812.738 Sq Mtr																
2	Badhkalia R&R Site	3000 Sq Mtr																
3	Sarangi Jharia R&R Site	3000 Sq Mtr	21.9 Acre Additional land also provided															
10	Quantitative Conclusion / Impact / Mitigation measures should be clearly presented of Carrying capacity study	Revised carrying capacity report presenting Quantitative Conclusion / Impact /Mitigation measures is provided																
11	Heavy metals shall be analysed in surface water	Heavy metals in surface water e.g. Cd, Se, Cu, Pb, As, Zn, Cr+6, Fe has already been analysed																

Further, based on observation of EAC, PP vide its email dated 13th March, 2022 submitted the reply on observation. It included plan to provide the coal dispatch plan phasing out the road transportation in Minutes of 27th EAC (Coal Mining Sector) held on 3rd to 4th March, 2022

three years. It has been envisaged that dispatch from the year 2025-2026 through road will brought to 0 MTPA or NIL considering all the four mines in the area i.e. Kulda, Garjanbahal, Basundhara and Siarmal. Road transportation will be phased out after the commissioning of the Barpalli loop. An estimated cost of 3198.12 Crs for doubling of Jharsuguda Barpalli Sardega Rail line approved by CIL Board dtd: 05.10.2021. Barpalli loop rail connectivity of length 47.7 Kms is a part of the above rail arrangement amounting to Rs. 808.99 Crs. Out of 3198.21 Crs, an amount of Rs. 558.01 Crs has already been deposited to SER/Kolkata. Sanctioned work amounting to Rs.311.69 Crs awarded to McNally-Trox-Kilburn (JV) vide order dated 20.01.2021 for construction of 2 nos. of RLS (10 Mty each) at Sardega including construction of 2.0 Km belt conveyor for immediate reduction of coal transportation by road.

The control measures to be taken by the project during the initial three years is given below with budget estimate and timelines.

Sr. No.	Year	Total Amount (Rs.) to be spent
1	2022-23	2395.90 lakhs
2	2023-24	1643.00 lakhs
3	2024-25	758.00 lakh
4	2025-26	480.40 lakhs

Total Environmental Management Cost as envisaged in the EIA EMP of Siarmal is Rs.73826.01 lakhs (Rs. 738.26 Crs) inclusive of Rehabilitation and Resettlement cost.

Excluding the R&R Cost i.e 67804.13 lakhs, the Environmental Management Cost value comes to Rs. 6021.88 lakhs (Rs. 60.22 Crs). Total cost comes in the first 4 years for production is Rs. 5277.30 lakhs. Cost of Surface Miners and Drill M/C are to be procured from HEMM head of PR under the Excavation dept. Excluding their cost the cost comes (Rs. 5277.30 - Rs.1600-Rs.1050 lakhs) i.e Rs. 2627.30 lakhs (Rs. 26.27 Crs).

An estimated cost of 3198.12 Crs for doubling of Jharsuguda Barpalli Sardega Rail line approved by CIL Board dtd: 05.10.2021. Barpalli loop rail connectivity of length 47.7 Kms is a part of the above rail arrangement amounting to Rs. 808.99 Crs. Out of 3198.12 Crs, an amount of Rs. 558.01 Crs has already been deposited to SER/Kolkata. Sanctioned work amounting to Rs.311.69 Crs awarded to McNally-Trox-Kilburn (JV) vide order dated 20.01.2021 for construction of 2 nos. of RLS (10 Mty each) including construction of 2.0 Km belt conveyor for immediate reduction of coal transportation by road.

27.4.4 *The EAC, after deliberations observed that Siramal OCP is a green field project. EAC enquired about the installation of conveyor belt for which PP has submitted the proper time bound action plan. It was informed that for initial two years, the coal will be transported through Road dedicated Coal corridor for 7 Km towards Sardega Siding, out of which 2 Kms of transportation will be made by upcoming Rapid Loading System + Conveyor belt System by March 2023. Further total 7 Silo Rapid loading system with belt conveyor for 70 MTPA has been proposed by March, 2025. Further PP informed that Widening of Sardega Railway siding 1 &2 and doubling of Jharsuguda Barpalli Sardega*

Rail line + Barpalli loop will be completed by May 2022 & October, 2025 respectively through Southeastern Railways.

EAC mandatorily asked PP; no infrastructure to be developed and OB dumping shall take place in forest area. Recognizing that large section of local people are not in favor of project, EAC emphasized that the CSR activities should be done with proper consultation and robust public redressal system should be devised. Further EAC mandatorily suggested PP to carry out need based assessment survey in study area and properly meet the major public hearing issues like employment, land compensation, pollution abatement in time bound manner.

EAC also observed a water body located towards the south eastern boundary and the straightening of Chattanjhor stream may disturb the catchment area of that water body so it was asked by PP not to disturb it and to protect it and check its quality regularly. PP had also mentioned that small stretch of rivulets was diverted as per the approved mine plan and EAC found that these area tributaries of Basundhara River flowing adjacent to the norther boundary of the mine site from west to east which is one of the important drainage basin of estimated catchment of 608 km² and which is also a tributary of Mahanadi River. EAC mandatorily asked PP to prepare a River augmentation plan for such streams by developing pond and prepare detailed Basundhara River conservation plan with respect to its quality check, beatification, plantation along the boundary and construction of over bridge if required. The PP to consult the state government to dovetail their plan with respective state government and state pollution boards in river rejuvenation plan.

*Further, based on documents and facts submitted by PP, EAC **recommended** grant of Environmental Clearance to Siarmal Opencast coal mining project of 40 MTPA (Normative)/50 MTPA (peak) of M/s Mahanadi Coalfields Limited in mine lease area of 2290.45 ha (Project Area - 2580.45 ha) located in District Sundargarh (Odisha), under the provisions of EIA Notification, 2006 and subsequent amendments/circulars thereto subject to the compliance of the following terms & conditions / specific conditions for environmental safeguards:*

- (i) PP shall submit Stage-I Forest Clearance of 349.709 ha prior to grant of Environment Clearance.*
- (ii) PP shall obtain CTO for 40 MTPA (Normative)/50 MTPA (Peak) from State Pollution Control Board prior of commencement of mining operations.*
- (iii) PP shall implement in-pit conveyor system with silo loading facility till railway siding within 2 years (March-2024) and No road transportation shall be allowed beyond this time. accordingly, SPCB shall not grant CTO for road transportation.*
- (iv) No diversion shall be allowed for Chattanjhor and Telendra stream and SPCB while granting the CTO under Water Act, shall ensure this. Adequate protection measure on either side of stream bank shall be taken by PP with tree plantation. It should be ensured that no mine drainage except rain water shall join the stream. Action plan for its protection shall be submitted to IRO, MoEF&CC within 6 months.*

- (v) *PP shall comply yearwise Environment control measures lists submitted as per email dated 13th March, 2022 to Ministry i.e. For FY 2022-23-Rs. 2395.90 Lakhs, FY-2023-24- Rs. 1643.00 Lakhs, FY 2024-26-Rs. 758.0 Lakhs and FY 2025-26 - Rs. 480.40 Lakhs.*
- (vi) *PP shall limit the activities of mining in its mine lease area only. No OB Dumping and infrastructure activity should be proposed and dumped on forest land. Accordingly revised Mine Plan should be submitted (if required) and submitted to Ministry.*
- (vii) *PP shall provide about 120 ha of grazing near the proposed R&R site and 20 ha of water bodies to be created in the form of ponds.*
- (viii) *PP shall comply with the recommendation of sub-committee's site visit report which is proposed in the case of EC of Basundhara West OCP.*
- (ix) *PP to install 2 continuous ambient air quality monitoring stations at suitable locations in consultation of SPCB. The real time data so generated shall be uploaded on company website. In addition, data should also be displayed digitally at entry and exit gate of mine lease area for public display. Data shall be linked to website of SPCB/CPCB. Monitoring station shall be installed within 1year period and action taken report shall be submitted to IRO with photographs.*
- (x) *PP shall make use of advanced computer simulation techniques for design and execution of blasting operation in the mine. PP shall make use of Electronic Delay Detonators for optimal blasting in coal and OB rock to minimize the environmental impacts of blasting such as ground vibration, fly rocks and excessive dust generation.*
- (xi) *PP shall deploy atleast 20% of overall fleet of dumpers/trucks as electrical or CNG/LNG based dumpers/trucks for transportation of coal/OB etc.*
- (xii) *PP shall engage third party independent expert agency for monitoring/auditing of compliance of EC conditions every year.*
- (xiii) *No village road shall be used for transportation of coal and no road transport route shall be adopted, which is passing through any sensitive location such as schools, hospitals etc. PP shall take legal undertaking from its consumers accordingly.*
- (xiv) *PP to develop public redressal system due to project activities through manual entry, whatsapp number or any other mean which is convenient to local people. The complaints so gathered shall be disposed of at GM project level on monthly basis.*
- (xv) *PP shall implement all listed activities which includes Fixed type sprinklers, trolley mounted and Imobile fog cannons of 40 mts throw, wind barrier at coal stockyard, plantation etc with different timeline till December, 2023. Six monthly report should be supported with photograph to comply with this condition.*
- (xvi) *PP shall plant 150,000 nos. of native trees with broad leaves along the transportation route in three years to prevent the effect of air pollution. After completion of tree plantation, number of trees shall be duly endorsed from District Forest Officer.*
- (xvii) *PP shall deploy only 40-50 tonnes covered trucks/dumper to reduce fleet size till Rapid loading sytem and conveyor belt system is commenced (i.e. till March, 2024).*
- (xviii) *PP shall engage dedicated agency for plantation in mine site by April, 2022 instead of depending on State Forest Department. PP may seek inputs and expertise from forest department.*

- (xix) *The detail of the activity proposed Community Development for Peripheral Villages as proposed of Rs. 30.75 Lakh with time bound action plan to be provided to Ministry IRO*
- (xx) *An amount of Rs. 984.89 lakh proposed for wildlife conservation plan should be submitted to the Govt. of Odisha, Forest & Environment Dept and the copy of receiving to be submitted to Ministry's IRO.*
- (xxi) *PP shall protect the pond/ water body present towards the South eastern boundary and make it for sustainable use for villages with consultation with gram panchayat. The cost occurring in this regard shall be borne by the company.*
- (xxii) *PP shall prepare Basundhara River conservation plan with respect to its quality check, beatification, plantation along the boundary and construction of over bridge if required and converge with plan of state government prepared for river rejuvenation.*
- (xxiii) *PP shall implement Peripheral tree plantation along the mine lease area with miyawaki method of 50 mts width within 2 years through independent expert*
- (xxiv) *PP shall explore an action plan for implementation of sand segregation plant to extract sand and aggregate (since quantity of OB is higher) to reduce agricultural land degradation*
- (xxv) *PP also to provide drinking water facilities like installation of RO with proper water supply pipe fittings to nearby rural areas and also to install hand pumps by seeking consent from panchayat of the villages located within the study area of 10 km radius buffer zone within two years.*
- (xxvi) *PP to install solar lights within 1 year from the grant of this EC along the road used for transportation of minerals to avoid the accidents at night and also seek its maintenance. PP is asked to also identify the rural areas for installation of solar light with its maintenance within the study area of 10 km radius buffer zone within one year*
- (xxvii) *PP to provide sanitation facility like bio toilets to the villages located within the study areas within 1 year from the grant of this EC*
- (xxviii) *PP shall construct new multispecialty (50 beds) hospital in the 10 km of the project area within 3 years for local people out of approved budget. This shall be done in consultation of DM of the district.*
- (xxix) *Proponent shall appoint an Occupational Health Specialist for Regular and Periodical medical examination of the workers engaged in the Project and maintain records accordingly; also, Occupational health check-ups for workers having some ailments like BP, diabetes, habitual smoking, etc. shall be undertaken once in six months and necessary remedial/preventive measures taken accordingly. The Recommendations of National Institute for ensuring good occupational environment for mine workers shall be implemented; The prevention measure for burns, malaria and provision of anti-snake venom including all other paramedical safeguards may be ensured before initiating the mining activities.*
- (xxx) *Chattanjhor stream may disturb the catchment area of that water body so it was asked by PP not to disturb it and to protect it and check its quality regularly.*
- (xxxi) *PP shall conduct need base assessment survey in study area in one year from the date of issue of EC and accordingly, Persons of nearby villages shall be given training on livelihood and skill development to makethem employable.*
- (xxxii) *The illumination and sound at night at project sites disturb the villages in respect of both*

human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day light/night hours

(xxxiii) *PP shall pay to farmers of agricultural land if there is any loss due to pollution found by concerned District Commissioner as per extent rules or norms.*

(xxxiv) *Hon'ble Supreme Court in an Writ Petition(s) Civil No. 114/2014, Common Cause vs Union of India & Ors vide its judgement dated 8th January, 2020 has directed the Union of India to impose a condition in the mining lease and a similar condition in the environmental clearance and the mining plan to the effect that the mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc. Compliance of this condition after the mining activity is over at the cost of the mining lease holders/Project Proponent". The implementation report of the above said condition shall be sent to the Regional Office of the MoEF&CC.*

Agenda No. 27.5

Tawa III Underground Mine for a production capacity of 0.48 MTPA/ 0.60 MTPA (N/P) in land area of 207.47 by M/s Western Coalfields Limited located near Gandhigram village, Tehsil Ghoradongri, District Betul (Madhya Pradesh) - Environmental Clearance-reg

[Online proposal No. IA/MP/CMIN/84545/2018; F No. IA-J-11015/163/2018- IA-II(M)]

27.5.1 The proposal is for grant of Environment Clearance to Tawa III Underground Mine for a production capacity of 0.48 MTPA in land area of 207.47 by Western Coalfields Limited located near Gandhigram village, Ghoradongri tehsil, Betul district, Madhya Pradesh

27.5.2 The details of the proposal, as ascertained from the proposal documents and as revealed from the discussions held during the meeting, are given as under:

- (i) The project area is covered under Survey of India Toposheet No 55 J/4 (IAC Series) and is bounded by the geographical coordinates ranging from Latitude 22°09'59" N to 22°10'35" N and Longitudes 78°10'00" E to 78°11'40" E (WGS-84).
- (ii) Coal linkage of the project is proposed for MPPGCL and other miscellaneous consumer.
- (iii) There is no Joint venture formed.
- (iv) Project does not fall in the Critically Polluted Area (CPA), where the MoEF&CC's vide its OM dated 13th January 2010 has imposed moratorium on grant of environment clearance.
- (v) Employment generation: employment to 729 nos. persons will be provided from the project.
- (vi) The project is reported to be beneficial in terms of Social: The project will lead to development of roads, ancillary industries, Improvement in social & living standards by providing

opportunities of direct & indirect employment to local community; Environmental: Conservation of coal. Also, it will lead to positive environmental impacts like mine water utilization, etc.; Financial: A substantial percentage of population is dependent on mining industry directly or indirectly. Because of this mining project some of the local population may take direct employment but a substantial impact will be on creation of indirect job opportunities and employment.

(vii) This is a green field project.

(viii) Terms of Reference granted vide J-11015/163/2018.IA-II (M) dated 08.02.2019.

(ix) Total mining lease area as per block allotment is 207.47 ha. Project Report / Mining Plan (Including Progressive Mine Closure Plan) has been approved by the WCL board vide letter WCL /BD SECTT/2018 /104 dated 01.06.2018

(x) The land usage pattern of the project is as follows

Pre-mining land use details

S. No.	Land Use	Within ML Area	Outside ML Area	Total
1	Agricultural land	73.688	0.00	73.688
2	Forest land	127.466	0.00	127.466
3	Waste land/Govt. land	6.316	0.00	6.316
4	Grazing land	0.00	0.00	0.00
5	Surface water bodies	0.00	0.00	0.00
6	Settlements	0.00	0.00	0.00
7	Others (specify)	0.00	0.00	0.00
	Total	207.47	0.00	207.47

Post-Mining: Area in Ha

Sl. No	Particulars	Area (ha)
1.	Land under Surface right and All Right	7.65
2.	Land required for Underground Mining Operation	199.82

(xi) Total geological reserve reported in the mine lease area is 17.602 MT with 17.602 MT mineable reserve. Out of total mineable reserve of 12.599 MT, 7.166 MT are available for extraction. Percent of extraction is 40%.

(xii) 3 (three) seams with thickness ranging from 0.60 m – 2.90 m are workable. Grade of coal is G-6, gradient is 1 in 7.5 to 1 in 10.

(xiii) Method of mining operations envisages by Board and Pillar method.

(xiv) Life of mine is 20 years.

(xv) The project is a greenfield underground mine.

(xvi) Transportation of coal has been proposed by conveyors in mine pit head, from surface to

consumer by Integrated Coal Transport Road.

- (xvii) 127.466 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 101.62 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No File No. 8-12/2019-FC dated 27/10/2021 and Approval under the Forest (Conservation) Act, 1980 for diversion of 25.866 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No F. No. 6-MPC 001/2018-BHO/430 dated 27/05/2021
- (xviii) Satpura Reservoir, Pachmadi Bio Reserve, Pench – Satpura Tiger corridor, Melghat – Satpura Tiger Corridor fall within 10 km boundary of the project.
- (xix) Wildlife conservation plan with respect to Schedule-I species prepared for a total provision of Rs 1,59,25,000.0 and has been submitted to MP State (DFO) vide our letter no. WCL/PKD/AGM/PLG/2022/584-A dated 09.02.2022.
- (xx) The ground water level has been reported to be varying between 2.10m to 15.40m during pre-monsoon and between 0.80m to 12.90m during post-monsoon. Total water requirement for the project is 100 KLD.
- (xxi) The NOC has been obtained from CGWA, New Delhi with reference no. CGWA/NOC/MIN/ORIG/2022/14067 on 17/12/2021 valid upto 16/12/2023
- (xxii) Public hearing for the project of 0.60 capacity in an area of 207.47 ha was conducted on 03.01.2020 at Gandhigram Village under the Chairmanship of ADM Betul. Major issues raised in the public hearing include Welfare/CSR works in surrounding villages etc. Water conservation measures like rainwater harvesting, arrangement of drinking water etc. Employment for local populace etc. Pointwise action taken report has been submitted to MPPCB officials. Latest status of compliance against the public hearing issues along with budgetary provisions and timeline has also been incorporated in the EIA-EMP report at Chapter VII.
- (xxiii) Consent to Operate: This is a green field project and Consent to Operate will be obtained after grant of EC.
- (xxiv) The nalla diversion is not envisaged in this project.
- (xxv) Ambient air quality data has been generated during October 2016 to Dec 2016 (post monsoon). Fresh baseline data has been regenerated during March 2020 to June 2020 (Pre Monsoon Season). Results are within the permissible limit. However, socio - economic data and flora fauna have been generated in the month of March'2021 for the proposed project i.e. Tawa III UG mine.
- (xxvi) No court cases, violation cases are pending against the project of the PP pertaining to Environment aspect.
- (xxvii) The project does not involve violation of the EIA Notification, 2006 and amendment issued thereunder.
- (xxviii) The project does not involve R&R.
- (xxix) Total cost of the project is Rs. 140.9916 Crore. Cost of production is Rs 2469.12 per tonne, CSR cost is Rs. 2 per tonne, R&R is not involved. Environment Management Cost is Rs 70.80 crores.

27.5.3 The EAC noted the following points:-

- (i) Terms of Reference to the project was granted vide J-11015/163/2018.IA-II (M) dated 08.02.2019.
- (ii) Recast project report of Tawa III and its approval with other mines like Sharda UG Mine and Amalgamated Gondegaon –Ghatrohan OC Mine has been provided by PP and no separate approval letter is considered for Tawa III.
- (iii) Public hearing for the project of 0.60 capacity in an area of 207.47 ha was conducted on **03.01.2020** at Gandhigram Village under the Chairmanship of ADM Betul. The major issue raised by public is employment for which PP committed to provide 302 contractual job, water supply, skill development training, construction of roads & check dams etc.
- (iv) Base line monitoring was conducted from March, 2020 to June, 2020 after the public hearing, which held on 03.01.2020.
- (v) 127.466 ha of forest land has been reported to be involved in the project. Approval under the Forest (Conservation) Act, 1980 for diversion of 101.62 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No File No. 8-12/2019-FC dated 27/10/2021 and Approval under the Forest (Conservation) Act, 1980 for diversion of 25.866 ha of forest land for non-forestry purposes has been obtained vide MoEF&CC letter No F. No. 6-MPC 001/2018-BHO/430 dated 27/05/2021
- (vi) Satpura Reservoir, Pachmadi Bio Reserve, Pench – Satpura Tiger corridor, Melghat – Satpura Tiger Corridor fall within 10 km boundary of the project and the location of the project with respect to Tiger Corridor, Panchmari Biosphere reserve as shown in the toposheet plan duly certified by Deputy Director, Satpura Tiger Reserve, Hoshangabad, Madhya Pradesh

27.5.4 The EAC, after deliberation observed that the Project is located at a distance of 2 km Satpura Reservoir and also many rivulets exist in catchment area. It was noted that the base line monitoring was conducted in March to June, 2020, in this duration mostly lockdown was imposed and the activities were ceased for many days. The PP and consultant themselves has mentioned in EIA/ EMP report that “Due to the fear of Pandemic people were not willing to interact with the surveyor even though data is collected by taking precautions and following social distancing” So the actual scenario would not be gathered by PP

Also, during further examination of records, EAC noted that public hearing notice in newspaper was published on 3rd December, 2019 and public hearing was conducted on 3rd March, 2020. However, baseline data was generated from March, 2020 to June, 2020. PP mentioned about another data of 2016, which cannot be considered as existing provision allows to use the data past 3 years from the date of submission of EC; more this data were not complete. Hence, this is against provisions of EIA Notifications, 2006 wherein baseline data shall be shared during public hearing and draft EIA submitted to SPCB. Without proper baseline monitoring data and incorrect, old data, the draft EIA cannot be conscripted and EMP measures can not be drawn.

It is noted to be highly objectionable and EAC proposed Ministry must take strict action on project

proponent and consultant M/s CMPDIL. It was further desired that Ministry may also ask QCI to take appropriate action against the consultant since there has been various instances wherein M/s CMPDIL has done such mistakes.

Further it is noted that instead of proper Mining Plan, only a copy of project report is attached involving other mines too. It was also found that in EIA report, Mine Closure cost has not been computed based on the recent guidelines.

The transportation of coal from mine site to railway siding is carried out by Road as proposed by PP but no traffic study is conducted by the consultant. The bifurcation of EMP cost provided in EIA /EMP report does not include the measures to combat air pollution while transporting the coal from mine to railway siding in addition to subsidence protection measures, water conservation.

It is also reported by PP that Pachmarhi Biosphere Reserve is located at approx. 8 Km in North Direction from the mine. The Satpura Reservoir is located approx. 2 Km South East from the mine. The Satpura Tiger Reserve is at approx. 15.9 Km in the North. 2 tiger corridors pass through the study area at NE and SE direction at a distance of approx. 6.1 Km and 9.1 Km respectively. Pachmarhi Biosphere Reserve comprises of three protection sites: the Bori Sanctuary, Satpura National Park and Pachmarhi Sanctuary – otherwise known as the Satpura Tiger Reserve. The 15 Km study area includes a part of the Bori Sanctuary and no approval of conservation plan has been taken.

In view of above, EAC desired following information from PP;

- (i) PP shall conduct one season baseline data again and submit the draft EIA report to SPCB for issuance of public notice in local and national newspaper informing the earlier information was not as per provisions of EIA Notification, 2006 and further seek comments from public and includes the concerns while submitting the revised EIA-EMP report.*
- (ii) Further, Clarification on the baseline monitoring conducted from mid March to mid June, 2020 which mostly fall under the Covid-19 lockdown phase.*
- (iii) The traffic study due to road transportation to be conducted by PP and furnish with EIA/ EMP report*
- (iv) PP must submit the approved Mine Plan with Mine closure plan of Tawa-III mine as per the latest guidelines issued by MoC in 2020.*
- (v) PP must provide the budgetary bifurcation and time bound action plan of proposed CSR activities to be conducted as per the need base assessment study carried out by M/s WCL.*
- (vi) PP shall take the approval of conservation plan from competent authority as area fall under biosphere reserves encompassing WL/Tiger reserves.*
- (vii) Time bound action plan with budgetary provision wrt to Tawa-III mine project for commitment made on the issues raised during public hearing in EIA EMP report also to be provided by PP*
- (viii) The provision of skill development plan with respect to coal mining sector must be prepared by PP and detail to be provided in EIA/EMP report.*
- (ix) The revised bifurcation of EMP cost as suggested to be furnished by PP.*

*The proposal is **deferred***

The meeting ended with thanks to the Chair.

Standard EC Conditions for Coal Mining Project (Opencast mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

(a) Statutory compliance

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).
- (iv) The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016/Hazardous & Other Waste Management Rules, 2016.

(b) Air quality monitoring and preservation

- (i) Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.
- (ii) The Ambient Air Quality monitoring in the core zone shall be carried out to

- ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- (iii) Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM₁₀/PM_{2.5}) such as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
 - (iv) The transportation of coal shall be carried out as per the provisions and route envisaged in the approved Mining Plan or environment monitoring plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately mitigated.
 - (v) Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
 - (vi) Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
 - (vii) Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.
- (c) Water quality monitoring and preservation**
- (i) The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25th September, 2000 and as amended from time to time by the Central Pollution Control Board.
 - (ii) The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27th May, 2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.
 - (iii) Regular monitoring of ground water level and quality shall be carried out in and

- around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- (iv) Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
 - (v) Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
 - (vi) Catch and/or garland drains and siltation ponds in adequate numbers and appropriate size shall be constructed around the mine working, coal heaps & OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression and green belt development and other industrial use. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of the dump and adjacent field/habitation/water bodies.
 - (vii) Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) after due treatment conforming to the specific requirement (standards).
 - (viii) Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the standards prescribed under Water Act 1974 and Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time. Adequate ETP /STP needs to be provided.
 - (ix) The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
 - (x) The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the

presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS or any other authority as prescribed by the law.

- (xi) The project proponent shall take all precautionary measures to ensure riverine/riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

(d) Noise and Vibration monitoring and prevention

- (i) Adequate measures shall be taken for control of noise levels as per Noise Pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.
- (ii) Controlled blasting techniques shall be practiced in order to mitigate ground vibrations, fly rocks, noise and air blast etc., as per the guidelines prescribed by the DGMS.
- (i) The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

(e) Mining Plan

- (i) Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- (ii) Mining shall be carried out as per the approved mining plan (including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- (iii) No mining shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980.
- (ii) Efforts should be made to reduce energy and fuel consumption by conservation, efficiency improvements and use of renewable energy.

(f) Land reclamation

- (i) Digital Survey of entire lease hold area/core zone using Satellite Remote

- Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change(MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- (ii) The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be rendered usable for agricultural/forestry purposes and shall be diverted. Further action will be treated as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
 - (iii) The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the “during mining”/”post mining” land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the MOEFCC/RO.
 - (iv) Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
 - (v) Further, it may be ensured that as per the time schedule specified in mine closure plan it should remain live till the point of utilization. The topsoil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office.
 - (vi) The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.
 - (g) **Green Belt**

- (i) The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered/endemic flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.
- (ii) Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed allalong the mine lease area as soon as possible. The green belt comprising a mix of native species (endemic species should be given priority) shall be developed all along the major approach/ coal transportation roads.

(h) Public hearing and Human health issues

- (i) Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & it's RO on six-monthly basis.
- (ii) The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any, as amended time to time.
- (iii) Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- (iv) Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- (v) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

(i) Corporate Environment Responsibility

- (i) The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No.22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- (ii) The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to

- bring into focus any infringements/deviation/violation of the environmental/forest/wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholders/stake holders.
- (iii) A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - (iv) Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - (v) Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
 - (j) **Miscellaneous**
 - (i) The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
 - (ii) The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
 - (iii) The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
 - (iv) The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x(ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
 - (v) The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
 - (vi) The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining

- projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area’.
- (vii) The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
 - (viii) The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
 - (ix) The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
 - (x) The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
 - (xi) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change.
 - (xii) Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - (xiii) The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - (xiv) The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - (xv) The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - (xvi) The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

Standard EC Conditions for Coal Mining Project (Underground mining):

All the projects recommended for grant of environmental clearance by the EAC shall also comply with the following Standard EC conditions as per Ministry's circular issued from time to time:

I. Statutory compliance:

- (i) The Environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Courts, NGT and any other Court of Law, from time to time, and as applicable to the project
- (ii) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (iii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iv) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (v) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.
- (vi) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vii) Solid waste/hazardous waste generated in the mines needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. to be carried out at least once in six months. Online ambient air quality monitoring station/stations may also be installed in addition to the regular air monitoring stations as per the requirement and/or in consultation with the

SPCB

- ii. The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB.
- iii. Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water sprinkling/rain gun/ mist sprinkling etc., shall be carried out in critical areas prone to air pollution with higher level of particulate matter all through the coal transport roads, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.
- iv. Major approach roads shall be black topped and properly maintained.
- v. The transportation of coal shall be carried out as per the provisions and route proposed in the approved mining plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed that the impact of sound, dust and accidents could be appropriately mitigated.
- vi. Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.
- vii. Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid airborne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.
- viii. Coal handling plant shall be operated with effective control measures w.r.t. various environmental parameters. Environmental friendly sustainable technology should be implemented for mitigating such parameters.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.

- iii. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.
- iv. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- v. Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.
- vi. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the mine. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the river front side, stabilized with plantation so as to withstand the peak water pressure preventing any chance of mine inundation.
- vii. Garland drains (of suitable size, gradient and length) around the critical areas i.e. mine shaft and low lying areas, shall be designed keeping at least 50% safety margin over and above the peak sudden rainfall and maximum discharge in the area adjoining the mine sites. The sump capacity shall also provide adequate retention period to allow proper settling of silt material of the surface runoff
- viii. The water pumped out from the mine, after siltation, shall be utilized for industrial purposive. watering the mine area, roads, green belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.
- ix. Industrial waste water from coal handling plant and mine water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made thereunder, and as amended from time to time. Oil and grease trap shall be installed before discharge of workshop effluent. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste water.
- x. Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.
- xi. The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations shall be prepared,

considering the presence of any river/rivulet/pond/lake etc., with impact of mining activities on it, and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the provisions of the approved Mining Plan/ EIA-EMP submitted to this Ministry and the same should be done with due approval of the concerned State/GoI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved mining plan and as per the permission of DGMS.

- xii. The project proponent shall take all precautionary measures to ensure reversion/ riparian ecosystem in and around the coal mine upto a distance of 5 km. A reversion /riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government.

IV. Noise and Vibration monitoring and prevention

- i. Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in underground mining operations, operation of HEMM, etc. shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms/guidelines in this regard. Progress in usage of such accessories to be monitored. Adequate awareness programme for users to be conducted.
- ii. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis.

V. Mining Plan

- i. Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.
- ii. No change in mining method i.e. UG to OC, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC).
- iii. Mining shall be carried out as per the approved mining plan (including mine closure plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).
- iv. Underground work place environmental conditions shall be rendered ergonomic and air breathable with adequate illumination in conformance with DGMS standards.
- v. No mining activity shall be carried out in forest land without obtaining Forestry Clearance as per Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.
- vi. Efforts should be made to reduce energy and fuel consumption by

conservation, efficiency improvements and use of renewable energy.

VI. Land reclamation

- i. Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale or as notified by Ministry of Environment, Forest and Climate Change (MOEFCC) from time to time shall be submitted to MOEFCC/Regional Office (RO).
- ii. Post-mining land be rendered usable for agricultural/forestry purposes and shall be handed over to the respective State Government, as specified in the Guidelines for Preparation of Mine Closure Plan, issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.
- iii. Regular monitoring of subsidence movement on the surface over and around the working areas and its impact on natural drainage pattern, water bodies, vegetation, structure, roads and surroundings shall be continued till movement ceases completely. In case of observation of any high rate of subsidence beyond the limit prescribed, appropriate effective mitigation measures shall be taken to avoid loss of life and materials. Cracks should be effectively plugged in with ballast and clay soil/suitable material.
- iv. Fly ash shall be used for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of subparagraph (8) of fly ash notification issued vide SO 2804 (E) dated 3rd November, 2009 as amended from time to time. Efforts shall be made to utilize gypsum generated from Flue Gas Desulfurization (FGD), if any, along with fly ash for external dump of overburden, backfilling or stowing of mines. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.
- v. A separate team for subsidence monitoring and surface mitigation measures shall be constituted and continuous monitoring & implementation of mitigation measures be carried out.
- vi. Thorough inspection of the mine lease area for any cracks developed at the surface due to mining activities below ground shall be carried out to prevent inrush of water in the mine.
- vii. Native tree species shall be selected and planted over areas affected by subsidence.
- viii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Green Belt

- i. The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. Action plan, in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife

- Department.
- ii. Greenbelt, consisting of three-tier plantation, of width not less than 7.5 m, shall be developed all along the mine lease area in a phased manner. The green belt comprising of a mix of native species shall be developed all along the major approach roads/ coal transportation roads.

VIII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored.
- ii. The Project Proponent shall undertake Occupational Health survey for initial and Periodical medical examination of the workers engaged in the Project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS Circulars. Besides carrying out regular periodic health check-up of their workers, 20% of the workers engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.
- iii. Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.
- v. Effective arrangement shall be made to provide and maintain at suitable points conveniently situated, a sufficient supply of drinking water for all the persons employed.
- vi. Implementation of Action Plan on the issues raised during the Public Hearing shall be ensured. The Project Proponent shall undertake all the tasks as per the Action Plan submitted with budgetary provisions during the Public Hearing. Land oustees shall be compensated as per the norms laid out R&R Policy of the Company/ or the National R&R Policy/ R&R Policy of the State Government, as applicable
- vii. The project proponent shall follow the mitigation measures provided in this Ministry's OMNo.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

IX. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring

- into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation/ violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
 - iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
 - v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- vi. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.

- vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
- x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
- xi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
- xii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
- xiii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
- xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
- xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Standard EC Conditions for Coal Washery Project

I. Statutory compliance:

- (i) The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1986, in case of the diversion of forest land for non-forest purpose involved in the project.
- (ii) The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
- (iii) The project proponent shall prepare a Site-Specific Conservation Plan / Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (in case of the presence of schedule-I species in the study area)
- (iv) The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.
- (v) The project proponent shall obtain the necessary permission from the Central Ground Water Authority.
- (vi) Solid waste/hazardous waste generated in the washery needs to be addressed in accordance to the Solid Waste Management Rules, 2016 / Hazardous & Other Waste Management Rules, 2016.
- (vii) Coal beneficiation practices shall be carried out under strict adherence to provisions of the Factories Act, 1957 and subordinate legislations made there under.

II. Air quality monitoring and preservation

- i. Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely particulates, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive receptors in consultation with the State Pollution Control Board. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc. carried out at least once in six months.
- ii. Continuous ambient air quality monitoring stations as prescribed in the statute be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM₁₀, PM_{2.5}, SO₂ and NO_x. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the

State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out at least once in six months.

- iii. Transportation of coal by road shall be carried out by covered trucks/conveyors. The transportation of clean coal and rejects shall be by rail with wagon loading through silo. Effective measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulates such as roads, belt conveyors, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled at source. It shall be ensured that the ambient air quality parameters conform to the norms prescribed by the Central/State Pollution Control Board
- iv. All approach roads shall be black topped and internal roads shall be concreted. The roads shall be regularly cleaned. Coal transportation shall be carried out by covered trucks.
- v. Covered trucks shall be engaged for mineral transportation outside the washery up to the railway siding, shall be optimally loaded to avoid spillage en-route. Trucks shall be adequately maintained and emissions shall be below notified limits.
- vi. Facilities for parking of trucks carrying raw material from linked mine shall be created within the unit.
- vii. Vehicular emissions shall be kept under control and regularly monitored. The vehicles having 'PUC' certificate from authorized pollution testing centres shall be deployed for washery operations.
- viii. Hoppers of the coal crushing unit and other washery units shall be fitted with high efficiency bag filters/mist spray water sprinkling system shall be installed and operated effectively at all times of operation to check fugitive emissions from crushing operations, transfer points of closed belt conveyor systems and from transportation roads.
- ix. The raw coal, washed coal and coal wastes (rejects) shall be stacked properly at earmarked site (s) within stockyards fitted with wind breakers/shields. Adequate measures shall be taken to ensure that the stored mineral does not catch fire.
- x. The temporary reject sites should appropriately planned and designed to avoid air and water pollution from such sites.

III. Water quality monitoring and preservation

- i. The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Water Act, 1974 Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from

- time to time by the Central Pollution Control Board.
- ii. The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-1A.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for compliance.
 - iii. Industrial waste water shall be properly collected and treated so as to conform to the standards prescribed under the Environment (Protection) Act, 1986 and the Rules made there under, and as amended from time to time.
 - iv. The project proponent shall not alter major water channels around the site. Appropriate embankment shall be provided along the side of the river/nallah flowing near or adjacent to the washery. The embankment constructed along the river/nallah boundary shall be of suitable dimensions and critical patches shall be strengthened by stone pitching on the riverfront side stabilised with plantation so as to withstand the peak water pressure preventing any chance of inundation.
 - v. Heavy metal content in raw coal and washed coal shall be analysed once in a year and records maintained thereof.
 - vi. The rejects should preferably be utilized in FBC power plant or disposed off through sale for its gainful utilization. If the coal washery rejects are to be disposed off, it should be done in a safe and sustainable manner with adequate compaction and post closure arrangement to avoid water pollution due to leachate from rejects and surface run off from reject dumping sites.
 - vii. An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on it, shall be prepared, submitted to MoEFCC and implemented.
 - viii. Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.
 - ix. Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.
 - x. No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m³/tonne of raw coal.
 - xi. Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly to MOEFCC/RO.

- xii. Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.
- xiii. The project proponent shall take all precautionary measures to ensure riverine/ riparian ecosystem in and around the coal mine up to a distance of 5 km. A riverine/riparian ecosystem conservation and management plan should be prepared and implemented in consultation with the irrigation / water resource department in the state government

IV. Noise and Vibration monitoring and prevention

- i. The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six-monthly basis
- ii. Adequate measures shall be taken for control of noise levels as per noise pollution Rules, 2016 in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.

V. Coal beneficiation

- i. Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.
- ii. Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.

VI. Green Belt

- i. Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.
- ii. The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.

VII. Public hearing and Human health issues

- i. Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six-monthly basis.

- ii. The project proponent shall undertake occupational health survey for initial and periodical medical examination of the personnel engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the personnel identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any. as amended time to time.
- iii. Personnel (including outsourced employees) working in core zone shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.
- iv. Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as applicable.
- v. The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11013/5712014-IA.II (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area'.

VIII. Corporate Environment Responsibility

- i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.
- ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders /stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
- iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.
- iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of

- action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
- v. Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

IX. Miscellaneous

- i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
- ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
- iv. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
- v. The project proponent shall monitor the criteria pollutants level namely; PM₁₀, SO₂, NO_x (ambient levels) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.
- vi. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
- vii. The project proponent shall submit the environmental statement for each financial year in form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
- viii. The project authorities shall inform to the Regional Office of the MOEFCC regarding commencement of mining operations.
- ix. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
- x. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
- xi. No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forests and Climate Change (MoEFCC) with such conditions mentioned therein. No change in

- the maximum quantum of raw material feed per annum against the approved washery capacity shall be made
- xii. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
 - xiii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
 - xiv. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
 - xv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
 - xvi. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
 - xvii. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Generic ToR for coal washery

- i. Siting of washery is critical considering to its environmental impacts. Preference should be given to the site located at pit head; in case such a site is not available, the site should be as close to the pit head as possible and coal should be transported from mine to the washer preferably through closed conveyer belt to avoid air pollution.
- ii. The washery shall not be located in eco-sensitive zones areas.
- iii. The washery should have a closed system and zero discharge. The storm drainage should be treated in settling ponds before discharging into rivers/streams/water bodies.
- iv. A thick Green belt of about 50 m width should be developed surrounding the washery.
- v. A brief description of the plant along with a layout, the specific technology used and the source of coal should be provided.
- vi. The EIA-EMP Report should cover the impacts and management plan for the project of the capacity for which EC is sought and the impacts of specific activities, including the technology used and coal used, on the environment of the area (within 10km radius), and the environmental quality of air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts for the rated capacity. Cumulative impacts for air and water should be a part of EIA in case coal mine, TPP and other washeries are located within 10km radius. The EIA should also include mitigative measures needed to minimize adverse environmental impacts.
- vii. A Study Area Map of the core zone as well as the 10km area of buffer zone showing major industries/mines and other polluting sources should be submitted. These maps shall also indicate the migratory corridors of fauna, if any and areas of endangered fauna; plants of medicinal and economic importance; any ecologically sensitive areas within the 10 km buffer zone; the shortest distance from the National Park/WL Sanctuary Tiger Reserve, etc. along with the comments of the Chief Wildlife Warden of the State Govt.
- viii. Data of one-season (non-monsoon) primary- base-line data on environmental quality of air (PM10, PM2.5, SOx and NOx, noise, water (surface and groundwater), soil be submitted.
- ix. The wet washery should generally utilize mine water only. In case mine water is not available, the option of storage of rain water and its use should be examined. Use of surface water and ground water should be avoided.
- x. Detailed water balance should be provided. The break-up of water requirement as per different activities in the mining operations vis-a-vis washery should be given. If the source of water is from surface water and/or ground water, the same may be justified besides obtaining approval of the

Competent Authority for its drawl.

- xi. The entire sequence of mineral production, transportation, handling, transfer and storage of mineral and waste, if any, and their impacts on air quality should be shown in a flow chart with specific points where fugitive emissions can arise and specific pollution control/mitigative measures proposed to be put in place. The washed coal and rejects should be transported by train as far as possible. Road transport of washed coal and rejects should generally be avoided. In case, the TPP is within 10km radius, it should be through conveyor belt. If transport by rail is not feasible because of the topography of the area, the option for transport by road should be examined in detail and its impacts along with the mitigation measures should be clearly brought out in EIA/EMP report.
- xii. Details of various facilities proposed to be provided in terms of parking, rest areas, canteen etc. to the personnel involved in mineral transportation, workshop and effluents/pollution load from these activities should be provided.
- xiii. Impacts of CHP, if any, on air and water quality should also be spelt out along with Action Plan.
- xiv. O.M.no.J-II013/25/2014-IA.I dated 11th August, 2014 to be followed with regard to CSR activities.
- xv. Details of Public Hearing, Notice(s) issued in newspapers, proceedings/minutes of Public Hearing, points raised by the general public and response/commitments made by the proponent along with the Action Plan and budgetary provisions be submitted in tabular form. If the Public Hearing is in the regional language, an authenticated English translation of the same should be provided. Status of any litigations/ court cases filed/pending, if any, against the project should be mentioned in EIA.
- xvi. Analysis of samples indicating the following be submitted:
 - Characteristics of coal prior to washing (this includes grade of coal, other characteristics of ash, S and heavy levels of metals such as Hg, As, Pb, Cr etc).
 - Characteristics and quantum of coal after washing.
 - Characteristics and quantum of coal rejects.
- xvii. Details of management/disposal/use of coal rejects should be provided. The rejects should be used in TPP located close to the washery as far as possible. If TPP is within a reasonable distance (10 km), transportation should be by conveyor belt. If it is far away, the transportation should be by rail as far as possible.
- xviii. Copies of MOU/Agreement with linkages (for stand-alone washery) for the capacity for which EC is being sought should be submitted.
- xix. Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved

by the Board of Directors.

- b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- xx. A detailed action Plan for Corporate Social Responsibility for the project affected people and people living in and around the project area should be provided.
 - xxi. Permission of drawl of water shall be pre-requisite for consideration of EC.
 - xxii. Wastewater /effluent should confirm to the effluent standards as prescribed under Environment (Protection) Act, 1986
 - xxiii. Details of washed coal, middling and rejects along with the MoU with the end-users should be submitted.

ANNEXURE-V

GENERIC TOR FOR AN OPENCAST COALMINE PROJECT for EC

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of.....ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for..... MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for.....MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A toposheet specifying locations of the State, District and Project site should be provided.
- (iv) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (v) Land use map (1: 50,000 scale) based on a recent satellite imagery of the study area mayalso be provided with explanatory note on the land use.
- (vi) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (vii) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (viii) A detailed Site plan of the mine showing the proposed break-up of the landfor mining operations such as the quarry area, OB dumps, green belt, safetyzone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left

- undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of embankments/bunds, proposed diversion/re-channeling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (ix) In case of any proposed diversion of nallah/canal/river, the proposed route of diversion /modification of drainage and their realignment, construction of embankment etc. should also be shown on the map as per the approval of Irrigation and flood control Department of the concerned state.
 - (x) Similarly, if the project involves diversion of any road/railway line passing through the ML/project area, the proposed route of diversion and its realignment should be shown in the map along with the status of the approval of the competent authority.
 - (xi) Break up of lease/project area as per different land uses and their stage of acquisition should be provided.

LANDUSE DETAILS FOR OPENCAST PROJECT should be given as per the following table:

Sl. No.	Land use	Within ML area (ha)	Outside ML area (ha)	Total
1.	Agricultural land			
2.	Forest land			
3.	Wasteland			
4.	Grazing land			
5.	Surface water bodies			
6.	Settlements			
7.	Others (specify)			
	TOTAL			

- (xii) Break-up of lease/project area as per mining plan should be provided.
- (xiii) Impact of changes in the land use due to the project if the land is predominantly agricultural land/forestland/grazing land, should be provided.
- (xiv) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xv) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats,

- other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xvi) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
 - (xvii) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.
 - (xviii) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
 - (xix) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
 - (xx) Detailed water balance should be provided. The break-up of water requirement for the various mine operations should be given separately.
 - (xxi) Source of water for use in mine, sanction of the Competent Authority in the State Govt..and impacts vis-à-vis the competing users in the upstream and downstream of the project site. should be given.

- (xxii) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xxiii) Impact of blasting, noise and vibrations should be given.
- (xxiv) Impacts of mining on the AAQ and predictions based on modeling using the ISCST-3 (Revised) or latest model should be provided.
- (xxv) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling, transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xxvi) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
- (xxvii) Details of waste OB and topsoil generated as per the approved calendar programme, and their management shown in figures as well explanatory notes tables giving progressive development and mine closure plan, green belt development, backfilling programme and conceptual post mining land use should be given. OB dump heights and terracing based on slope stability studies with a max of 28° angle as the ultimate slope should be given. Sections of final dumps (both longitudinal and cross section) with relation to the adjacent area should be shown.
- (xxviii) Efforts be made for maximizing progressive internal dumping of O.B., sequential mining, external dump on coal bearing area and later rehandling into the mine void. --to reduce land degradation.
- (xxix) Impact of change in land use due to mining operations and plan for restoration of the mined area to its original land use should be provided.
- (xxx) Progressive Green belt and ecological restoration /afforestation plan (both in text, figures and in the tabular form as per the format of MOEFCC given below) and selection of species (native) based on original survey/land-use should be given.

Table 1: Stage-wise Land use and Reclamation Area (ha)

S.N.	Land use Category	Present (1 st Year)	5 th Year	10 th Year	20 th Year	24 th Year (end of mine life)*
1.	Backfilled Area Reclaimed with plantation)					
2.	Excavated Area (not reclaimed)/void					
3.	External OB dump Reclaimed with plantation)					
4.	Reclaimed Top soil dump					
5.	Green Built Area					
6.	Undisturbed area (brought under plantation)					
7.	Roads (avenue plantation)					
8.	Area around buildings and Infrastructure					
	TOTAL					

* As a representative example

Table 2 : Stage Wise Cumulative Plantation

S. No.	YEAR*	Green Belt		External Dump		Backfilled Area		Others(Undisturbed Area/etc)		TOTAL	
1.	1 st year										
2.	3 rd year										
3.	5 th year										
4.	10 th year										
5.	15 th year										
6.	20 th year										
7.	25 th year										
8.	30 th year										
9.	34 th year (end of mine life)										
10.	34-37 th Year (Post-mining)										

* As a representative example

(xxxi) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A

Plan for the ecological restoration of the mined out area and post mining land use should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.

Table 3: Post-Mining Landuse Pattern of ML/Project Area (ha)

S.N.	Land use during Mining	Land Use (ha)				
		Plantation	Water Body	Public Use	Undisturbed	TOTAL
1.	External OB Dump					
2.	Top soil Dump					
3.	Excavation					
4.	Roads					
5.	Built up area					
6.	Green Belt					
7.	Undisturbed Area					
	TOTAL					

- (xxxii) Flow chart of water balance should be provided. Treatment of effluents from workshop, township, domestic wastewater, mine water discharge, etc. should be provided. Details of STP in colony and ETP in mine should be given. Recycling of water to the max. possible extent should be done.
- (xxxiii) Occupational health issues. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower in the mine should be given.
- (xxxiv) Risk Assessment and Disaster Preparedness and Management Plan should be provided.
- (xxxv) Integration of the Env. Management Plan with measures for minimizing use of natural resources - water, land, energy, etc. should be carried out.
- (xxxvi) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
- (xxxvii) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
- (xxxviii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.

(xxxix) Corporate Environment Responsibility:

- a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
 - c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xl) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xli) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xlii) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xliii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xliv) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

FOREST CLEARANCE: Details on the Forest Clearance should be given as per the format given:

TOTAL ML/PROJECT AREA (ha)	TOTAL FOREST LAND (ha)	Date of FC	Extent of forestland	Balance area for which FC is yet to be obtained	Status of appl for. diversion of forest land
		If more than, provide details of each FC			

GENERIC TORs FOR AN UNDERGROUND COAL MINE PROJECT

- (i) An EIA-EMP Report shall be prepared for MTPA rated capacity in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification, 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) A Study area map of the core zone (project area) and 10 km area of the buffer zone (1: 50,000 scale) clearly delineating the major topographical features such as the land use, surface drainage pattern including rivers/streams/nullahs/canals, locations of human habitations, major constructions including railways, roads, pipelines, major industries/mines and other polluting sources. In case of ecologically sensitive areas such as Biosphere Reserves/National Parks/WL Sanctuaries/ Elephant Reserves, forests (Reserved/Protected), migratory corridors of fauna, and areas where endangered fauna and plants of medicinal and economic importance found in the 15 km study area should be given.
- (iv) Map showing the core zone delineating the agricultural land (irrigated and un-irrigated, uncultivable land as defined in the revenue records, forest areas (as per records), along with other physical features such as water bodies, etc should be furnished.
- (v) A contour map showing the area drainage of the core zone and 25 km of the study area (where the water courses of the core zone ultimately join the major rivers/streams outside the lease/project area) should also be clearly indicated in the separate map.
- (vi) A detailed Site plan of the mine showing the proposed break-up of the land for mining operations such as the quarry area, OB dumps, green belt, safety zone, buildings, infrastructure, CHP, ETP, Stockyard, township/colony (within and adjacent to the ML), undisturbed area -if any, and landscape features such as existing roads, drains/natural water bodies to be left undisturbed along with any natural drainage adjoining the lease /project areas, and modification of thereof in terms of construction of

- embankments/bunds, proposed diversion/re-channelling of the water courses, etc., approach roads, major haul roads, etc should be indicated.
- (vii) Original land use (agricultural land/forestland/grazing land/wasteland/water bodies) of the area should be provided as per the tables given below. Impacts of project, if any on the land use, in particular, agricultural land/forestland/grazing land/water bodies falling within the lease/project and acquired for mining operations should be analyzed. Extent of area under surface rights and under mining rights should be specified.

S. N	ML/Project Land use	Area under Surface Rights(ha)	Area Under Mining Rights(ha)	Area under Both (ha)
1.	Agricultural land			
2.	Forest Land			
3.	Grazing Land			
4.	Settlements			
5.	Others (specify)			

Area under Surface Rights

S.N.	Details	Area (ha)
1.	Buildings	
2.	Infrastructure	
3.	Roads	
4.	Others (specify)	
	TOTAL	

- (viii) Study on the existing flora and fauna in the study area (10km) should be carried out by an institution of relevant discipline. The list of flora and fauna duly authenticated separately for the core and study area and a statement clearly specifying whether the study area forms a part of the migratory corridor of any endangered fauna should be given. If the study area has endangered flora and fauna, or if the area is occasionally visited or used as a habitat by Schedule-I species, or if the project falls within 15 km of an ecologically sensitive area, or used as a migratory corridor then a Comprehensive Conservation Plan along with the appropriate budgetary provision should be prepared and submitted with EIA-EMP Report; and comments/observation from the CWLW of the State Govt. should also be obtained and furnished.
- (ix) Details of mineral reserves, geological status of the study area and the seams to be worked, ultimate working depth and progressive stage-wise working scheme until the end of mine life should be provided on the basis of the approved rated capacity and calendar plans of production from the approved Mining Plan. Geological maps and sections should be included. The Progressive mine development and Conceptual Final Mine Closure Plan should also be shown in figures. Details of mine plan and mine closure plan approval of Competent Authority should be furnished for green field and expansion projects.

- (x) Details of mining methods, technology, equipment to be used, etc., rationale for selection of specified technology and equipment proposed to be used vis-à-vis the potential impacts should be provided.
- (xi) Impact of mining on hydrology, modification of natural drainage, diversion and channeling of the existing rivers/water courses flowing through the ML and adjoining the lease/project and the impact on the existing users and impacts of mining operations thereon.
- (xii) One-season (other than monsoon) primary baseline data on environmental quality - air (PM₁₀, PM_{2.5}, SO_x, NO_x and heavy metals such as Hg, Pb, Cr, As, etc), noise, water (surface and groundwater), soil - along with one-season met data coinciding with the same season for AAQ collection period should be provided.
- (xiii) Map (1: 50, 000 scale) of the study area (core and buffer zone) showing the location of various sampling stations superimposed with location of habitats, other industries/mines, polluting sources, should be provided. The number and location of the sampling stations in both core and buffer zones should be selected on the basis of size of lease/project area, the proposed impacts in the downwind (air)/downstream (surface water)/groundwater regime (based on flow). One station should be in the upwind/upstream/non-impact/non-polluting area as a control station. The monitoring should be as per CPCB guidelines and parameters for water testing for both ground water and surface water as per ISI standards and CPCB classification wherever applicable. Observed values should be provided along with the specified standards.
- (xiv) Impact of mining and water abstraction from the mine on the hydrogeology and groundwater regime within the core zone and 10 km buffer zone including long-term monitoring measures should be provided. Details of rainwater harvesting and measures for recharge of groundwater should be reflected in case there is a declining trend of groundwater availability and/or if the area falls within dark/grey zone.
- (xv) Study on subsidence including modeling for prediction, mitigation/prevention of subsidence, continuous monitoring measures, and safety issues should be carried out.
- (xvi) Detailed water balance should be provided. The breakup of water requirement as per different activities in the mining operations, including use of water for sand stowing should be given separately. Source of water for use in mine, sanction of the Competent Authority in the State Govt. and impacts vis-à-vis the competing users should be provided.
- (xvii) Impact of choice of mining method, technology, selected use of machinery and impact on air quality, mineral transportation, coal handling & storage/stockyard, etc, Impact of blasting, noise and vibrations should be provided.
- (xviii) Impacts of mineral transportation within the mining area and outside the lease/project along with flow-chart indicating the specific areas generating fugitive emissions should be provided. Impacts of transportation, handling,

- transfer of mineral and waste on air quality, generation of effluents from workshop etc, management plan for maintenance of HEMM and other machinery/equipment should be given. Details of various facilities such as rest areas and canteen for workers and effluents/pollution load emanating from these activities should also be provided.
- (xix) Effort be made to reduce/eliminate road transport of coal inside and outside mine and for mechanized loading of coal through CHP/ Silo into wagons and trucks/tippers.
 - (xx) Details of various facilities to be provided to the workers in terms of parking, rest areas and canteen, and effluents/pollution load resulting from these activities should also be given.
 - (xxi) The number and efficiency of mobile/static water sprinkling system along the main mineral transportation road inside the mine, approach roads to the mine/stockyard/siding, and also the frequency of their use in impacting air quality should be provided.
 - (xxii) Impacts of CHP, if any on air and water quality should be given. A flow chart showing water balance along with the details of zero discharge should be provided.
 - (xxiii) Conceptual Final Mine Closure Plan and post mining land use and restoration of land/habitat to the pre- mining status should be provided. A Plan for the ecological restoration of the mined out area and post mining landuse should be prepared with detailed cost provisions. Impact and management of wastes and issues of re-handling (wherever applicable) and backfilling and progressive mine closure and reclamation should be furnished.
 - (xxiv) Greenbelt development should be undertaken particularly around the transport route and CHP. Baseline data on the health of the population in the impact zone and measures for occupational health and safety of the personnel and manpower for the mine should be submitted.
 - (xxv) Cost of EMP (capital and recurring) should be included in the project cost and for progressive and final mine closure plan.
 - (xxvi) Details of R&R. Detailed project specific R&R Plan with data on the existing socio- economic status of the population (including tribals, SC/ST, BPL families) found in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternate livelihood concerns/employment for the displaced people, civic and housing amenities being offered, etc and costs along with the schedule of the implementation of the R&R Plan should be given.
 - (xxvii) CSR Plan along with details of villages and specific budgetary provisions (capital and recurring) for specific activities over the life of the project should be given.
 - (xxviii) Corporate Environment Responsibility:
 - a) The Company must have a well laid down Environment Policy approved by the Board of Directors.
 - b) The Environment Policy must prescribe for standard operating

- process/procedures to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions.
- c) The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions must be furnished.
 - d) To have proper checks and balances, the company should have a well laid down system of reporting of non-compliances/violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
- (xxix) Details on Public Hearing should cover the information relating to notices issued in the newspaper, proceedings/minutes of Public Hearing, the points raised by the general public and commitments made by the proponent and the action proposed with budgets in suitable time frame. These details should be presented in a tabular form. If the Public Hearing is in the regional language, an authenticated English Translation of the same should be provided.
- (xxx) In built mechanism of self-monitoring of compliance of environmental regulations should be indicated.
- (xxxi) Status of any litigations/ court cases filed/pending on the project should be provided.
- (xxxii) Submission of sample test analysis of Characteristics of coal: This should include details on grade of coal and other characteristics such as ash content, S and heavy metals including levels of Hg, As, Pb, Cr etc.
- (xxxiii) Copy of clearances/approvals such as Forestry clearances, Mining Plan Approval, mine closer plan approval. NOC from Flood and Irrigation Dept. (if req.), etc. wherever applicable.

Details on the Forest Clearance should be given as per the format given:

Total ML /Project Area (ha)	Total Forest Land (ha)	Date of FC	Extent of Forest Land	Balance area for which FC is yet to be obtained	Status of appl. For diversion of forest land
		If more than one provide details of each FC			

**GENERIC TORs FOR AN OPENCAST-CUM-UNDERGROUND
COALMINEPROJECT**

- (i) An EIA-EMP Report would be prepared for a combined peak capacity ofMTPA for OC-cum-UG project which consists of MTPA in an ML/project area of ha for OC and MTPA for UG in an ML/project area of ha based on the generic structure specified in Appendix III of the EIA Notification 2006.
- (ii) An EIA-EMP Report would be prepared for MTPA rated capacity to cover the impacts and environment management plan for the project specific activities on the environment of the region, and the environmental quality encompassing air, water, land, biotic community, etc. through collection of data and information, generation of data on impacts including prediction modeling for MTPA of coal production based on approved project/Mining Plan for MTPA. Baseline data collection can be for any season (three months) except monsoon.
- (iii) The ToRs prescribed for both opencast and underground mining are applicable for opencast – cum-underground mining.

LIST OF PARTICIPANTS OF EAC (COAL) IN 27th MEETING OF HELD DURING 3rd TO 4th MARCH, 2022 THROUGH VIDEO CONFERENCING

1.	Shri G.P Kundargi			DAY
		-	Chairman	P
2.	Dr. N. P. Shukla	-	Member	P
3.	Shri Suramya Dolarray Vora, IFS (Retd)	-	Member	P
4.	Dr. Umesh Jagannathrao Kahalekar	-	Member	P
5.	Shri K.B. Biswas	-	Member	P
6.	Dr. Nandini.N	-	Member	P
7.	Dr. Unmesh Patnaik	-	Member	A
8.	Shri Prasant Kumar Mohapatra	-	Member	A
9.	Professor S S Rai, Representative of IIT/ISM Dhanbad	-	Member	P
10.	Shri M.P Singh, Representative of CEA	-	Member	P
11.	Dr. Santosh Kumar Hampannavar	-	Member	P
12.	Prof R.K. Giri Representative of IMD	-	Member	P
13.	Dr. Nazimuddin Representative of Central Pollution Control Board	-	Member	A
14.	Shri. Gowrappan ji	-	Member included by Chairman for one violation project	P
14.	Shri Lalit Bokolia, Director, MoEFCC	-	Member Secretary	P